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QC 982 .B85 1878 (July-Aug.)

U.S. WEATHER BUREAU MAR 16 1951

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 1, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.07	763.8	69.3	20.7	78	NE			4		1			0	0	Very fair	Dr. Ollive.
Nemours			30.02	762.4	79.9	26.6	65	NNW			3		3			0	0	Pretty fair	Michel.
Algiers			29.93	760.2	81.3	27.4	65	NNE			1		2			0	0	Fair	Tourillière.
La Calle			29.90	759.5	77.9	25.5	77	NNE			5		5			0	0	Cloudy	Foufrede.
Tunis			29.94	760.5	86.9	30.5	56	ESE			6		0			0	0	Clear	Jacques.
Sfax			30.00	762.0	87.8	31.0		NNE			3		4			0	0	Cloudy	Gau.
Saida			30.04	763.0	89.2	31.8	20	NNW			1		0			0	0	Clear	Herbin.
Tebessa			30.01	762.2				W			6		1			0	0	Very fair	Watrin.
Geriville			30.08	763.9	96.8	36.0		S			4		0			0	0	Clear	Brugniaux.
Laghouat			29.98	761.5	104.7	40.4	21	SW			4		0			0	0	Clear	Bertrand.
Biskra			29.68	760.3	108.5	42.5		SE			1		1			0	0	Very fair	Chanvaux.

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

AUSTRIAN SERIES.

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

Agram	29.35	745.6	29.88	758.9	77.7	25.4	63	NE			0		7			0.063	1.6		Prof. Ivan Stoza.
Cracow, I. R. Observatory	29.00	736.6	29.74	755.3	72.3	22.4	45	W			4		10			0	0		Dr. Wierzbiski.
Eperies	28.89	733.9	29.74	755.3	70.5	21.4	77	NW			1		8c;s			0.047	1.20		Julius Mikolik.
Gratz	28.67	728.1	29.37	748.6	72.9	22.7	75	WSW			2		6			0.358	9.10		Andreas Rospini.
Hermannstadt	28.35	720.0	29.68	753.9	78.4	25.8	46	WNW			3		3			0	0		Prof. Reissenberg
Kremsmünster	28.55	725.1	29.84	757.8	70.2	21.2	62	WNW			2		3			0	0		Prof. C. Wagner
Lemberg	28.73	729.8	29.68	753.9	67.8	19.9	70	NW			3		10			0.004	0.1		Dr. T. Stanecki.
Pola	29.77	756.2	29.88	758.9			61	S			2		1k			0	0		I.R.Hydrographic Office
Szathmar	29.34	745.1	29.79	756.6	66.2	19.0	77	NW			4		10			0.354	9.0	Thunder-storm	Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.80	756.8	29.90	759.4	81.7	27.6	52	W			1		2			Inap	Inap.	Raining	P. Busin.
Vienna	29.17	740.9	29.85	758.3	73.6	23.1	47	W			3		1			0.079	2.0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

Arlon	28.48	723.5	29.95	760.8	64.9	18.3	68	W			1		10			0.004	0.1		Prof. M. Passau.
Brussels	29.69	754.2	29.89	759.1	67.6	19.8	65	W			4		6		W	0.110	2.80		Royal Observatory
Furnes	29.94	760.4	29.96	761.0	65.8	18.8	75	NW			3		6			0.031	0.8		M. E. de Cae.
Maseyck	29.78	756.4	29.91	759.6	68.9	20.5	75	WSW			2		7			0.240	6.1		M. Pierrot.

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

M06.1 U58s

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Reduced to sea-level		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount. Up'er	Clouds. Amount. Low'r	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Inches.	Millimeters.		
Aberdeen	29.92	760.0	30.02	762.5	52.6	11.4		NNW	16	7.2			7			0	0	D. clouds	W. Boswell.
Ardrossan	29.96	761.0	29.98	761.5	63	17.2		SSE			1		7					D. clouds	George Carrick.
Armagh, Observatory			29.98	761.5	63.9	17.7		NE	7	3.1			3					D. clouds	S. Call.
Bidston, (Liverpool Obs.)			29.93	760.2	63.3	17.4		E	4	1.8			10					Overcast	John Hartnup.
Birr Castle, (Parsonstown)			29.93	760.2	68.8	20.4		SE			1		7					D. clouds	J. L. E. Dreyer.
Bolton																			Thomas Mackereth.
Bradford, Yorkshire	29.56	750.8	29.96	761.0	59.4	15.2		NE			1		6			0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	84.5	29.2		NE			2		2					D. clouds	Pvt. G. W. Roberts, A. H. C.
Cambridge, Observatory			29.95	760.7	62.8	17.1		N			1		7					D. clouds	H. Todd.
Cardington			29.95	760.7	65.0	18.3		NE			1		9					Overcast	John McLaren.
Chatham, School M. E.	29.80	756.9	29.92	760.0	67.2	19.6		N			1		9					D. clouds	Lt. W. G. Morris, R. E.
Dartmoor	28.46	722.9	29.92	760.0	58.0	14.4		NE			2		4					Fine	Alexander Watt.
Donaghadee	29.96	761.0	29.99	761.7	67	19.4		SE			3		5					D clouds	J. Mac Gowan.
Dover	29.90	759.4	29.92	760.0	64	17.8		ESE			1		9					Overcast	J. Costello.
Eccles, (near Manchester)			29.94	760.5	67.6	19.8		NE	2.2	1.0								Blue sky	Thomas Mackereth.
Falmouth, Observatory	29.68	753.9	29.90	759.4	64.9	18.3		SSE			3		6					D. clouds	The Staff.
Fort Napier, (Natal)	27.70	703.6	30.60	762.0	62.2	16.8		SE			2		4					D. clouds	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.75	755.6	29.98	761.5	85.0	29.4		W			0		4					D. clouds	
Galway, Queen's College			29.88	758.9	72	22.2		E			2		5					D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.93	760.2	29.98	761.5	76.6	24.8		W			6		2					Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.78	756.4	29.99	761.7	62.3	16.8		ENE			3		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.92	760.0	29.93	760.2	58	14.4		NNW			3		5					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.75	755.6	29.91	759.7	67.5	19.7		NE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.69	754.1	29.91	759.7	65.5	18.6		SE			2		3					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston			29.92	760.0	68	20.0		SE			4		3c			0.32	8.1	Fine	M. P. Moyle.
Holyhead	29.90	759.4	29.95	760.7	61	16.1		NE			5		2					Blue sky	John Tilston.
Jersey	29.67	753.6	29.96	761.0	65.2	18.4		SE			1		8					Gloomy	J. Fisher.
Kew, Observatory			29.92	760.0	66.5	19.2		NE	4	1.8			10s;d					Misty	The Staff.
Kingstown	29.94	760.5	29.97	761.2	61	16.1		E			5		3					Blue sky	George Mitchell.
Leicester, Museum			29.93	760.2	60.0	15.6		NE			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.75	755.6	29.82	757.4	88.2	31.2		SE			1		4					D. clouds	Sgt. Hewitt, A. H. C.
Nairn	29.96	761.0	30.05	763.3	56	13.3		ENE			2		8					¾ clouded	W. D. Penny.
Nassau, (Bahamas)			29.94	760.5	84.5	29.2		NW			0		8					Drizzling	C. S. Duncombe.
Nottingham, Observatory	29.78	756.4	29.97	761.2	63.2	17.3		NNE			2		7k		N	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.42	747.3	29.94	760.5	61.2	16.2		ENE			2		10			Blank	Blank	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.92	760.0	62	16.7		E			1		10					Gloomy	H.E. Bellamy.
Plymouth	29.84	757.9	29.91	759.7	67.0	19.4		SE			2		6					D. clouds	John Merrifield.
Roche's Point	29.86	758.4	29.90	759.4	68	20.0		SE			3		8					Cloudy	W. Kennedy.
Saint Ann's Head	29.74	755.4	29.90	759.4	.69	20.6		Calm			0		2						John C. Walker.
Sandwick Manse, (Orkneys.			30.08	764.0	53	11.7		NNW	16	7.2			10					Misty	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey			29.81	757.2	79.0	26.1		SSW			1		2					D. clouds	Sergt. W. H. Lyne.
Sheffield	29.70	754.4	29.98	761.5	61.8	16.6		NE			2		9			0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.98	761.5	60.0	15.6	64	SE			3		7			0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.57	751.1	29.98	761.5	62.1	16.7		E			1		6					D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	30.03	762.7	30.06	763.5	54	12.2		ENE			4		10						John Sutherland.
Stratfield Turgiss	29.72	754.9	29.93	760.2	63.7	17.6		SE			1		10					Showery	Rev. C. H. Griffith, F.M.S.
Thurso			30.07	763.8	53	11.7		N			2		10					Overcast	John Trotter.
Truro, Royal Institution			29.93	760.2	72	22.2		SE			4		5					D. clouds	W. Newcombe.
Valencia, Observatory			29.90	759.4	66.1	18.9		NNW	5	2.2			8					Misty	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)																			Henry Mercer.
Cape Good Hope, Obs'y																			The Staff, for E.J. Stone.
Hobart Town, (Tasmania)			29.44	747.8	54.0	12.2	93	N			1		10k			0.10	2.5	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park																			Andrew Gibb.
Mauritius, Observatory	29.94	760.5	30.13	765.3	72.0	22.2	59	ESE	13.0	5.8		0	4		ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	29.69	754.1	29.78	756.4	54.3	12.4	62	NNE	20	8.9			3			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)																			J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

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

Marine Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria, N. 45° 35′ W. 43° 25′			29.66	753.4	60	15.6		WNW			6		3			10*	W	Blue sky	Capt. W. Watson.
S. S. Batavia																			Capt. J. E. Mouland.
Ship Camperdown																			Capt. A.T. Miller.
Brig Catherine																			Capt. Alex. Wilson.
Barque Celeste																			
Barque Commewyne																			Capt. A. Buchan.
S. S. Don																			A. S. Thomson.
S. S. Gordon Castle																			Capt. W. Waring.
S. S. Hibernia																			Capt. W. R. Cato.
Barque Margaret Smith																			Capt. D. W. A. Quaile
Barque Maroon																			Capt. A. T. Brown.
Ship Mikado																			Capt. C. C. Prehn.
S. S. Naid																			Capt. J. Smith.
S. S. Peruvian																			Capt. W.H. Smith, R. N. R.
Royal Alice																			Capt. E. M. Hughes.
S. S. Seine																			Capt. H. Manning.
Barque Sorata																			
Schooner Traveller, N. 60° 10′, W. 49° 20′			30.17	766.3	37	2.8		ESE			4		9			3	SE	D. clouds	Capt. Alex Simpson.
Barque Virginia, N. 49° 10′, W. 66° 5′			29.80	759.2	63	17.2		S			4		5					Misty	Capt. W. Spratly.
S. S. Yorkshire																			Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING Co. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.17	664.7			68.4	20.2	91	NE			2	9ck				Inap.	Inap.		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.48	748.8	29.53	750.0	66.9	19.4	51	WNW			6		6						
Fanöe	29.63	752.7	29.65	753.2	59.2	15.1	68	WNW			6		9						
Godthaab, (Greenland)	30.16	766.0	30.20	767.1	45.0	7.2	98	Calm			0		10						Foggy
Stykkisholm, (Iceland)	30.17	766.2	30.21	767.3	50.4	10.2	90	W			2		10						Foggy
Thorshavn, (Faröe)	30.11	764.9	30.15	765.8	54.3	12.4	68	N					4						
Vestervig	29.39	746.5	29.56	750.8	62.6	17.0	78	NW			2		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.45	748.0	30.00	762.0	71.6	22	61	SW			2		5		SW	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.91	759.6	30.01	762.3	73.0	22.8	63	NW			2		5		NW	0	0	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.85	758.1	29.93	760.1	84.2	29	46	NNE			1		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.41	747.0	29.95	760.8	73.3	22.4	45	S			2		10n			0	0	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.63	752.7	29.91	759.6	71.8	22.1	48	W			2		5		WSW	0	0	Cloudy	Normal School.
Besançon	29.10	739.1	29.96	761.0	73.8	23.2	44	NW			2		0			0	0	Clear	Normal School.
Bourg-en-Bresse	29.10	739.2	30.03	762.8	78.8	25.7	55	S			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.30	746.4	29.98	761.4	70.5	21.4	57	ENE			2		n		ENE	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.58	751.3	29.82	757.5	61.9	16.6	83	E			2		9		E	0.51	13.00	Stormy	The Staff.
Carcassonne, Normal School	29.48	748.7	29.87	758.7	82.4	28	51	E			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.30	744.2	29.85	758.1	70.3	21.3	84	WSW			2		4		NE	0.016	0.4		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.63	752.7	29.94	760.5	70.9	21.6	63	Calm			0		2k			0	0	Slightly cl'dy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.62	726.9	29.92	760.0	72.3	22.4	48	NE			1		2		SW	0	0	Slightly cl'dy	Allnard, Director.
Commercy, Normal School	29.11	739.4	29.97	761.1	67.3	19.6	68	WSW			2		5		ENE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.85	732.7	29.99	761.7	84.4	29.1	34	SW			2		2		S	0	0	¼ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.72	755.0	29.93	760.2	67.3	19.6	88	WNW			4		8		S	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.64	752.8	29.93	760.3	73.6	23.1	50	S			2		5		S	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.07	738.3	29.96	760.9	72.5	22.5	47	N			1		1			0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.86	758.4	29.96	761.0	67.6	19.8	68	SSE			2		8		S	0.079	2.0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.29	743.9	29.96	760.9	71.4	21.9	73	W			1		0			0.047	1.2	Clear	M. Gabzin, Director.
Mirecourt	28.95	735.3	29.96	761.0	68.5	20.3	54	SSW			2		2		E	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.71	754.6	29.90	759.4	91.4	33	44	SE			2		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.51	749.5	29.87	758.6	90.5	32.5	47	E			1		0			0	0	Clear	Bernard, Director.
Paris, Observatory	29.70	754.4	29.93	760.3	72.7	22.6	47	SW			1		8			0	0	Very cloudy	National Observatory.
Privas	28.84	732.4	29.84	757.9	85.1	29.5	49	NE			1		1		NE	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	29.86	758.4	29.89	759.2	75.2	24.0	45	S			2		10		S	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.82	757.4	29.90	759.5	74.5	23.6	52	SW			2		5		SW	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.89	733.8	29.96	760.9	71.6	22	74	W			2		5		W	0.39	10.	Cloudy	T. Huguet, Director.
Villefranche, Normal School	29.28	743.7	29.96	760.9	79.2	26.2	57	SW			1		5		E	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique																			L'Abbé Marchési.
Lyons			30.00	761.9	77.5	25.3	72						1			0	0		L. Jays.
Marseilles, Observatory			29.90	759.5	77.0	25.0	63	W			1–2		0			0	0		The Staff.
Mont-Louis	24.89	632.3	30.21	767.3	69.8	21.0	32	SSW	18.6	8.33			1		SE	0	0		M. Cave.
Nice			29.95	760.7	75.7	24.3	83	W			2		1			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.66	753.3	29.93	760.3	75.7	24.3	50	WSW			1		3		WSW	0	0		Marié Davy, Director
Perpignan			29.90	759.4	73.2	22.9	75	SE	9.3	4.17			6		SW	0	0		Dr. Finos.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.59	573.9			54.1	12.3		SW			4		4			0	0	Fair	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.78	756.3	29.94	760.5	71.1	21.7	50	NW			0–1		4		W; WSW	0	0		E. Renou.
Toulouse, Observatory	29.21	742.0	29.93	760.3	82.4	28.0	51	S			3		1			0	0		The Staff.
Tours																			C. Marquet.
Versailles, (near Paris)			29.95	760.8	75.9	24.4	42	SW			2		7			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.69	754.0	29.71	754.6	79.3	26.3	96	SE	6.7	3.0			8ck			0.024	0.6	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 332 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer: Corrected for instru-m'tal error and temperature. Inches.	Barometer: Corrected for instru-m'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.03	737.4	29.87	758.7	75.7	24.3	51	W			6		8	W		0	0		Prof. Dr. Hoh.
Berlin	29.55	750.6	29.72	754.8	72.3	22.4	64	SW			4		7			0.157	4.0	Raining	Prof. Arndt.
Breslau	29.27	743.5	29.80	756.9	65.1	18.4	64	W			5		10					Rainy	Royal University Obs'y
Carlsruhe	29.49	749.1	29.90	759.5	73.4	23.0	55	SW			3		6			0	0		Albert Senz.
Cassel	29.25	743.0	29.85	758.3	69.1	20.6	64	W			2		8	W		0	0		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	69.4	20.8	68	SW			3		8k			0	0		Director Lose.
Emden	29.70	754.3	29.74	755.3	64.6	18.1	59	NW			2.5		6	W		0	0		Prof. Prestel.
Frankfort on the Main	29.58	751.2	29.93	760.2	70.2	21.2		W			2		9			0	0		Physical Society.
Friedrichshafen	28.54	724.9	29.93	760.2	69.4	20.8	58	SW			2		0			1.10	28.		M. Wilhelm.
Hamburg	29.67	753.5	29.73	755.2	66.0	18.9	75	NW			6		10ks			1.299	33.0	Showery	Captain F. Hegemann.
Kiel	29.65	753.1	29.67	753.5	65.1	18.4	62	W			5		7			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.49	749.1	29.57	751.1	63.5	17.5	80	SW			5		6			0	0		Prof. E Luther.
Köslin			29.61	752.1	70.9	21.6		SW			5		0			0.193	4.9		H. Müller.
Leipsic, Observatory	29.43	747.5	29.84	757.8	69.8	21.0	63	W			4		9	WNW		0.102	2.6		Prof. Bruhns.
Memel, Naval School	29.50	749.2	29.54	750.4	70.0	21.1	68	WSW			3		8ks						Reinbrecht and Skalweit.
Neufahrwasser	29.58	751.2	29.59	751.6	70.9	21.6	67	WSW			3		10			0.020	0.5	Raining	A. Lothes.
Posen	29.46	748.3	29.74	755.4	68.4	20.2	70	W			5		9			0.472	12.0	Thunder-storm	Dr. Magener.
Strassburg (in Alsace)	29.42	747.2	29.95	760 6	74.7	23.7	41	Calm			0		6	WSW		0	0		Astronomical Observatory.
Stuttgart	28.98	736.1	29.88	759.0	72.5	22.5	43	NE			2		5	W		0	0		Prof. Schoder.
Treves, (Trier)	29.30	744.2	29.82	757.4	71.4	21.9	52	NW			7		2			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.45	722.7	29.89	759.2	69.6	20.9	43	W	2	1			3ck		W	0.004	0.1		Dr. Von Bebber.
Wustrow, Naval School	29.64	752.9	29.68	753.9	64.6	18.1	74	WNW			3		4			0.031	0.8		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.51	749.5	29.88	758 9	88 7	31.5	88.7	SW			1.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.54	750.2	29.59	751 5	91.2	32.9	68	SW	24?	10.77			5		WSW	0	0	D. clouds	
Deesa	29.13	739.8	29.58	751.3	100.0	37.8	43	S					6	NE		0	0	Thunder	
Bombay	29.68	753.8	29.72	754.8	76.7	24.8	99	W	25	11.2			10		SSW	2.48	63.0	Overcast	
Poona	27.74	704.5	29.74	755.4	75.8	24.3	82	WSW					10		W	0.09	2.3	Raining	
Lahore	28.74	730.0	29.44	747.7	105.3	40.7	32	W	2	0.9			0			0	0	Misty	
Belgaum	27.26	692.4	29.82	757.5	69.7	20.9	90	W	15	6.7			10	WSW		0.26	6.6	Overcast	
Bangalore																			
Roorkee	28.59	726.2	29.45	748.0	97.9	36.6	44	Calm	5.3	2.4			4			0	0	Misty	
Agra	28.92	734.5	29.45	747.9	106.4	41.3	32	N	7	3.1					N	0	0		
Trichinopoly																			
Nagpr	28.60	726.4	29.64	752.9	76.9	24.9	85	Calm	6.5	2.9			9			0.10	2.5	Gloomy	
Madras																			
Lucknow	29.13	739.8	29.48	748.8	98.1	36.7	51	NE	3.0	1.3			2			0	0	D. clouds	
Allahabad	29.21	741.9	29.51	749.5	95.2	35.1	56	ESE	2.4	1.1			10		W	0	0	Overcast	
Patna	29.41	746.9	29.59	751.5	82.5	28.1	84	E	1.9	0.8			10	E	E	0.69	17.5	Overcast	
Hazaribagh	27.64	702.0	29.63	752.5	80.8	27.1	82	ESE	9	4.0			10		E			Drizzling	
Cuttack	29.57	751.1	29.65	753.2	85.0	29.4	79	Calm	2.9	1.3			4			0.02	0.5	D. clouds	
Calcutta (Alipore)	29.65	753.2	29.67	753.7	84.2	29.0	83	SW	9	4.0			2	S	S	0	0	D. clouds	
Goalpara	29.26	743.3	29.65	753.2	78.9	26.1	90	Calm	2.9	1.2			2			8.31	211.1	D. clouds	
Chittagong	29.65	753.2	29.74	755.5	84.9	29.4	81	SSW					10			0	0	Misty	
Sibsagar	29.32	744.8	29.66	753.2	85.0	29.4	82	SW	3.6	1.6			10	W	W	0.59	15.0	D. clouds	
Rangoon																			
Jubbulpore	28.28	718.2	29.62	752.3	85.7	29.8	58	SW	5.3	2.4			7	S		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal, and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,969 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.50	749.3	29.90	759.4	78.4	25.8	69	S	1.3	0.6			6			2.004	50.9		Prof. Giovanni Clodig.
Padua	29.77	756.2	29.88	758.9	80.6	27.0	58	SW	1.3	0.6			4	SW		0	0		Prof. Dott. Lorenzoni
Vicenza	29.68	753.8	29.87	758.6	81.9	27.7	54	SSE	2.6	1.1			2	W		0	0		Conte Alm. Da Schio.
Bergamo	28.58	726.0	29.85	758.2	81.3	27.4	52	S			2		4			0	0		Prof. Trionfini Carlo.
Milan	29.37	745.9	29.86	758.5	85.3	29.6		NNE			1		2	WNW		0	0		Prof. Schiaparelli.
Moncalieri	29.00	736.6	29.87	758.7	79.2	26.2	64	SSE	3.1	1.4			5	NW		0	0		Prof. P. F. Denza.
Mondovi	28.01	711.5	29.85	758.2	76.8	24.9	50	SE			2		1	WSW		0	0		Prof. D. C. Bruno.
Porto Maurizio	29.72	754.9	29.94	760.4	74.5	23.6	76	E			4		3	WNW		0	0		Prof. L. Vassallo.
Genoa	29.78	756.3	29.94	760.5	76.5	24.7	74	SW	6.9	3.1			2	SE		0	0		Prof. G. M. Garibaldi.
Parma	29.55	750.6	29.85	758.3	81.5	27.5	48	E			4		2			0	0		Prof. P. Pigorini.
Florence	29.67	753.5	29 91	759.8	83.7	28.7	37	SW			2		0			0	0		Cav. F Meucci.
Leghorn	29.84	757.9	29.92	760.0	76.5	24.7	73	W	9.8	4.4			3			0	0		Prof. P. Monte.
Pesaro	29.85	758.3	29.90	759.4	78.3	25.7	67	NE					0			0	0		Prof. Luigi Guidi.
Urbino	28.40	721.4	29.90	759.5	81.7	27.6	38	SW			1		3			0	0		Prof. P. Serpieri.
Grosseto	29.82	757.5	29.93	760.2	82.4	28.0	53	WSW			2		2	S		0	0		Avv. P. Ponticelli.
Rome	29.73	755.2	29.90	759.5	87.4	30.8	48	WNW	7.4	3.3			0			0	0		Prof. P. G. S. Ferrari.
Naples, O. U	29.72	755.0	29.92	759.9	89.4	31.9	47	SE			2		0			0	0		Prof. L. Palmieri.
Lecce	29.67	753.6	27.91	759.8	85.8	29.9	36	ENE	7.4	3.3			0			0	0		Prof. C. De Giorgi.
Cagliari	29.69	754.2	29.88	758.9	79.5	26.4	67	SW			2		1	S		0	0		Prof. A. Pacinotti.
Cosenza	29.04	737.7	29.89	759.2	89.6	32.0	58	NW	4.9	2.2			0			0	0		Prof. F. D. Conti.
Palermo	29.69	754.0	29.93	760.3	79.0	26.1	64	ENE	6.3	2.8			0			0	0		Prof. G. Cacciatore.
Syracuse	29.72	755.0	29.82	757.5	85.8	29.9	54	SW			4		0			0	0		Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.88	746.2	29.93	760.3	86.9	30.5	46	NE	0	0			2	E		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 461 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.70	754.4	29.90	759.4	76.6	24.8	85	SE	0.9	0.4			8s,ck			0	0	Fair...	
Tokei (Yeddo)	29.82	757.4	29.89	759.2	70.7	21.5	90	NE	10.2	4.6			10s			0.405	10.29		The Observatory.
Tokei (Yeddo) University	29.78	756 4	29.88	758.9	70	21.1	95	NE	9	4.0			10ks			0.02	0.5	Cloudy	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca																			L. Castillo, A. E.
Guadalajara	25.04	635.9	29.99	761.8	67.2	14.0	87	Calm	0	0		0	9		S	0	0	Very cloudy	Prof. L. Perez.
Guanajuato																			Prof. V. Fernandez
Leon					66.2	19.0	89	SE	0.9	0.4		5c	0	S		0.53	13.5	Fair	Prof. M. Leal.
Mexico	23.09	586.5	30.02	762.4	66.8	16.0	82	NW	1.8	0.8		1c	8k		NE	Inap.	Inap.	Cloudy	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalts)					64.9	18.3	89	Calm	0	0		0	10n			0.15	3.9	Overcast	M. V. de Leon, M. E.
Puebla	23.32	592.3	29.96	761.0	56.8	13.8	86	E	2.2	1.0		1c	8cs			0.68	14.8	⅝ cloudy	Prof. B. Gonzales.
Toluca																			Prof. O. Velasquez.
Tlacotalpam	29.92	759.9	29.91	760.2	77.0	25.0	91	SE	0.9	0.4		9cs	0	SE		0	0	Cloudy	Prof. F. R. Bayly.
San Luis Potosi	24.21	614.1	30.10	764.5	63.8	17.2	61	S	0.9	0.4		0	5n		S	0	0	⅝ cloudy	G. Barroeta, M. D.
Vera-Cruz	29.91	759.8	29.94	760.4	82.4	28.0	82	WSW	2.0	0.9		0	8kn		N	0.58	14.6	Dark	Prof. J. Rosselli.
Zacatecas					62.6	17.0	82	E	5.1	2.3		2	7	S	E	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	591.0	30.00	762 0	55.4	13.0	91	NE	4.5	2.0		2	0	Calm		0.59	15.0	Clear	Prof. P. Spina. (M.M.D.D
Morelia	24.09	612.0			64.4	18.0	52	E	0.9	0.4		0	10k			0.02	0.6	Cloudy	M. Tena, F. L. Paramo,
Durango																			M. V. de Leon, C. E.
Colima	28.35	720.0	29.98	761.6	76.6	24.8	78					0	10k			0	0	Cloudy	R. Banda, C. E

Note.—The elevation of Aguascalientes, is 1,831 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.93	760.2	29.93	760.2	64.8	18.2		WNW			4					0.335	8.5		
Groningen	29.77	756.1	29.82	757.5	63.1	17.3		NW			2					0.220	5.6		
Helder	29.85	758.3	29.85	758.3	60.8	16.0		NW			4					0.008	0.2		
Hellevoetsluis	29.85	758.3	29.85	758.3	60.6	15.9	85	NNW			3					0.051	1.3	Very cloudy	H. v d Brink.
Utrecht	29.82	757.5	29.87	758.7	67.1	19.5	74	WNW			3		8						

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.66	753.4	29.72	754.8	57.9	14.4	59	NNW	41.8	18.7	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.59	751.5	29.63	752.5	48 6	9.2	71	NNW	18	8	.....	.....	10	.....	.....	0.079	2.0	.....	
Christiania	29.43	747.4	29.67	751.0	61.7	16.5	40	NNE	7	3	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.49	749.1	29.54	750.2	44.6	7.0	63	NW	11	5	.....	.....	6	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.98	761.4	30.17	766.2	69.8	21.0	86	W	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.05	737.8	30.04	763.0	77.0	25.0	39	WNW	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.14	765.5	30.23	767.7	73.6	23.1	48	WSW	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	756.0	30.12	765.0	69.3	20.7	67	NW	8.7	3.9	.....	.....	9	.....	.....	0.004	0.1	.....	The Staff.
Ponta Delgada, (Azores)	30.15	765.8	30.22	767.6	71.6	22.0	72	SW	16.1	7.2	.....	.....	4	.....	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, N. 0° 36′ 02″, E. 5° 15′	.....	.....	30.32	770.1	77.9	25.5	.....	SSW	.....	.....	3	.....	3	.....	SSW	3	SSW	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E 32° 37′	.....	.....	30.01	762.3	72.5	22.5	.....	SE	.....	.....	5	.....	0	.....	.....	3	SSE	Foggy	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	30.01	762.3	82.4	28.0	.....	NE	.....	.....	4	.....	10	.....	NE	3	SE	Overcast	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.99	761.7	.....	.....	.....	WSW	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.24	742.6	29.64	752.9	71.1	21.7	51	WSW	13	6	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.13	740.0	29.53	750.1	72.9	22.7	56	W	16	7	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.21	741.9	29.44	747.7	74.7	23.7	61	S	4	2	.....	.....	6ck	.....	.....	.....	.....	Thunder-storm.	Prof. Dr. Weihrauch.
St. Petersburg	29.42	747.2	29.43	747.6	69.4	20.8	63	ENE	4	2	.....	.....	7kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.01	736.9	29.61	752 0	77.0	25.0	50	NE	4	2	.....	.....	8kn	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.68	753.9	29.75	755.7	77.4	25.2	61	S	9	4	.....	.....	4k	.....	.....	.....	.....	Thunder-storm.	Kurdakof.
Kertch	29.78	756.4	29.80	756.9	75.2	24.0	79	SSE	7	3	.....	.....	5	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.13	740.0	29.65	753.0	81.7	27.6	41	S	11	5	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.45	747.9	29.64	752.8	80.6	27.0	44	WSW	2	1	.....	.....	8n	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.47	748.5	29.49	749.0	57.7	14.3	78	SSW	13	6	.....	.....	10	.....	.....	.....	.....	Light clouds	Ogorodnikof.
Tiflis	28.41	721.7	29.75	755.7	79.9	26.6	41	NW	13	6	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.80	757.0	29.72	754.9	73.9	23.3	71	SSW	7	3	.....	.....	10s;n	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.39	746.5	29.64	752.9	75.2	24.0	41	W	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.63	727.3	29.56	750.7	59.2	15.1	65	W	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.43	747.5	29.65	753.0	93.0	33.9	45	NNW	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Light clouds	Bobrof.
Tashkend	28.22	716.7	29.81	757.2	83.8	28.8	63	Calm	0	0	.....	.....	4	.....	.....	.....	.....	.....	Michelson.
Baruaul	29.11	739.4	29.61	752.1	68.4	20.2	55	W	9	4	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.13	740.0	29.41	747.0	64.2	17.9	74	SSE	9	4	.....	.....	7	.....	.....	.....	.....	.....	Murks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.54	750.2	29.68	753.8	72.5	22 5	83	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,541.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.80	756.9	29.90	759.5	80.2	26.8	59	SW	5.7	2.56	.....	2c	.....	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.90	759 5	29.96	760.9	77.7	25.4	62	NW	1.8	0.82	.....	3	1	SE	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.06	687 4	.....	.....	72.3	22.4	51	SW	6.5	2.92	.....	.....	5	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.77	705.4	29.87	758.7	84.7	29.3	21	SW	14.2	6.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.78	756.4	29.92	760.0	92.1	33.4	45	NE	2.7	1.19	.....	.....	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.11	739.5	29.99	761.7	67.5	19.7	70	WSW	9.3	4.17	.....	..	7	.....	.....	0.457	11.6	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.3	30.00	761.9	82.5	28.1	77	Calm	0	0	.....	1c	0	.....	.....	0.122	3.1	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.2	30.07	763.7	73 2	22.9	57	WNW	21.1	9.4	.....	0	0	.....	.....	.....	.....	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.5	29.99	761.8	84.2	29.0	81	E	.....	.....	.....	2kn	4k	E	E	0.295	7.50	D. clouds	Leonardo de Tejeda, Ch'f Eng'rs.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.37	746.0	29.41	747.0	57.2	14.0	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.35	745.6	29.41	746.9	57.6	14 2	69	SW	.....	.....	2	.....	6	.....	.....	0.197	5.0	.....	
Hernosand	29.36	745.7	29.41	747.0	54.3	12.4	64	N	.....	.....	6	.....	9	.....	.....	0.169	4.3	Raining	
Stockholm	29.30	744.2	29.48	748.7	52.9	11.6	86	NNE	.....	.....	4	.....	10	.....	.....	0.020	0.5	.....	
Wisby	29.39	746.4	29.45	747.9	66.9	19.4	79	W	.....	.....	3	.....	10	.....	.....	0.055	1.4	Raining	
Sub-Series.																			
Upsala	29.38	746.3	29.46	748.2	54.1	12.3	77	NE	8.5	3.8	.....	.....	10	.....	W	0.030	0.75	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.54	724 9	29.91	759.8	73.0	22.8	50	N	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.36	720.4	29.15	740.4	72.7	22.6	55	NW	.....	.....	.....	.....	1	.....	.....	0.094	2.4	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.3 mm.; Thermometer, +0.8 cent.; Relative Humidity, —4 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.87	758.7	81.0	27.2	48	S	9	4.0	.....	.....	4	.....	SW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Salonica	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. Stéfanidès.
Valona	.....	.....	30.05	763.3	83.3	28.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Varna	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Imperial Observatory.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.68	753.9	29.80	756.8	82.6	28.1	72	NW	.....	.....	1	.....	2k	.....	NW	0	0	D. clouds	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.78	756 4	30.06	763.5	83	28.3	.....	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.86	758.4	29.92	760.0	79	26.1	76	Calm	0	0	.....	5k	0	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.90	759.4	29.94	760.5	74	23.3	81	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.04	763.0	76.2	24.6	77	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.80	756.9	29.85	758.2	54.2	12.3	87	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.89	759.2	29 92	760.0	69	20.6	73	SW	17	7.6	.....	5c	Haze	N	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	29.92	760.0	29.98	761.5	81.1	27.3	63	NW	8	3.6	.....	4ck	0	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.25	742.9	30.07	763.8	53	11.7	96	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.95	735.3	29.99	761.7	77	25.0	91	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.83	757.7	29.96	761.0	76	24.4	81	W	3	1.3	.....	2c	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.70	754.4	30.06	763.5	78.7	23.2	83	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.91	759.7	29.93	760.2	59	15.0	88	S	.....	.....	1	0	3ks	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.74	755 4	30.06	763.5	70	24.4	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.92	760.0	81.0	27.2	.....	W	2	0.9	.....	0	0	.....	.....	0	0	.....	C. H. Rigby.
*Montreal, Quebec	29.85	758.2	30.03	762.7	80	26.7	70	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.84	758.2	29.99	761.7	79	26.1	82	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.34	745.2	30.05	763.3	76.7	24.8	77	Calm	.....	.....	0	0	0	.....	.....	0	0	.....	J. F. Jeffars, B. A.
Port Dover, Ontario	29.38	746.2	30.03	762.7	74	23.3	95	Calm	0	0	.....	10k	0	NE	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.86	758.4	29.91	759.7	79.4	26.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.40	746.7	30.01	762.2	76	24.4	82	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.72	754.9	30.03	762.7	74	23.3	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.69	754.6	30.03	762.7	70	21.1	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.95	760.7	30.00	762.0	70	21.1	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.86	758.4	30.02	762.5	69	17.2	72	S	5	2.2	.....	1c	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	29.98	761.5	81	27.2	71	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.25	742.9	29.97	761.2	84	28.9	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.77	730.7	29.98	761.5	74.7	23.7	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A
*Sydney, C. B	29.92	760.0	29.95	760.7	77	25.0	72	W	3	1.3	.....	8c	0	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.68	753.9	30.04	763.0	75	23.9	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	57	N	.....	.....	.....	4k	4s	.....	.....	0.01	0.3	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.85	758.2	30.06	763.5	78	25.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.26	743.2	29.87	758.7	74	23.3	73	Calm	0	0	.....	1cs	Haze	Calm	.....	0	0	Clear	
Atlantic City, New Jersey	30.10	764.5	30.11	764.8	72	22.2	90	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Augusta, Georgia	29.85	758.2	30.02	762.5	82	27.8	67	NE	3	1.3	.....	Haze	0	.....	.....	0.12	3.0	Clear	
Baltimore, Maryland	30.04	763.0	30.09	764.3	76	24.4	82	SE	4	1.8	.....	8k	0	SE	.....	0	0	Fair	
Barnegat, New Jersey	30.10	764.5	30.12	765.0	76	24.4	81	S	4	1.8	.....	0	0	.....	W	0	0	Fair	
Bismarck, Dakota	28.35	720.1	30.21	767.1	58	14.4	70	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
BoiseCity, Idaho	27.01	687.3	29.94	760.5	67	19.4	32	S	8	3.6	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.92	760.0	30.06	763.5	81.5	27.5	61	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.84	732.5	29.82	757.4	80	26.7	78	SE	6	2.7	.....	10as	0	SE	.....	0	0	Cloudy	
Breckenridge, Minnesota	29.11	739.4	30.10	764.5	55	12.8	93	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.88	758.9	29.94	760.5	82	27.8	83	Calm	0	0	.....	8c	0	Calm	.....	0.06	1.5	Fair	
Buffalo, New York	29.35	745.5	30.01	762.2	77	25.0	65	S	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	71	21.7	37	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.82	757.4	30.07	763.8	79	26.1	65	S	4	1.8	.....	1k	0	Calm	.....	0	0	Clear	
Cairo, Illinois	29.57	751.1	29.94	760.5	76	24.4	91	E	6	2.7	.....	8cs	0	Calm	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	61	16.1	35	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Grant, Arizona	25.17	639.3	30.00	762.0	72	22.2	23	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.70	678.2	30.19	766.8	64	17.8	34	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.30	693.4	29.88	758.9	43	6.1	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	79	26.1	82	NE	10	4.5	.....	2k	2s	NE	E	0.04	1.0	Fair	
Cape Henry, Virginia	30.04	763.0	30.03	763.5	77	25.0	77	SE	13	5.8	.....	0	5s	.....	S	0	0	Fair	
Cape Lookout, N. Carolina	30.01	762.2	30.03	762.7	76	24.4	86	E	13	5.8	.....	5ck	0	E	.....	0	0	Fair	
Cape May, New Jersey	30.09	764.3	30.12	765.0	72	22.2	90	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy	
Charleston, South Carolina	29.99	761.7	30.05	763.3	80	26.7	78	NE	5	2.2	.....	1cs	0	N	.....	0	0	Clear	
Cheyenne, Wyoming	24.15	613.4	30.00	761.3	51	10.6	93	S	4	1.8	.....	0	8ks	.....	SW	0	0	Cloudy	
Chicago, Illinois	29.25	742.9	29.90	759.4	73	22.8	81	SW	2	0.9	.....	5c	5s	SW	SW	0.02	0.5	Cloudy	
Cincinnati Ohio	29.33	745.0	29.94	760.5	77	25.0	77	E	4	1.8	.....	7c	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.30	744.2	29.98	761.5	75	23.9	77	SE	5	2.2	.....	0	0	.....	.....	0.10	2.5	Clear	
Columbus, Ohio	29.24	742.4	30.00	762.0	75	23.9	77	SW	.....	.....	1	5c	Haze	Calm	Calm	0	0	Fair	
Coneno, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Corsicana, Texas	29.50	749.3	29.95	760.7	75	23.9	95	SE	4	1.8	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Davenport, Iowa	29.38	746.2	30.00	762.0	66	18.9	95	N	13	5.8	.....	.....	10n	.....	Calm	1.54	39.1	Heavy rain	
Denison, Texas	29.21	741.9	29.98	761.5	73	22.8	95	N	3	1.3	.....	.....	10n	.....	N	0.46	11.7	Heavy rain	
Denver, Colorado	25.00	635.0	30.22	767.6	55	12.8	87	N	4	1.8	.....	0	5s	.....	Calm	0.17	4.3	Fair	
Detroit, Michigan	29.32	744.7	29.96	761.0	75	23.9	81	SW	3	1.3	.....	5ks	0	Calm	.....	0	0	Fair	
Dodge City, Kansas	27.57	700.3	29.83	757.7	60	15.6	77	NE	16	7.2	.....	0	1s	.....	N	0.01	0.3	Clear	
Dubuque, Iowa	29.30	744.2	29.98	761.5	64	17.8	89	N	6	2.7	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Duluth, Minnesota	29.41	747.0	30.08	764.0	61	16.1	71	W	8	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Eagle Pass, Texas	29.08	738.6	29.78	756.4	78	25.6	86	E	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Eastport, Maine	29.92	760.0	29.99	761.7	75	23.9	72	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	83	28.3	49	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.32	744.7	30.00	762.0	78	25.6	69	S	7	3.1	.....	5k	0	S	.....	0	0	Fair	
Escanaba, Michigan	29.33	745.0	29.96	761.0	69	20.6	75	N	10	4.5	.....	5k	0	N	.....	0.40	10.2	Fair	
Florence, Arizona	.....	.....	.....	.....	72	22.2	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.56	649.2	29.93	752.6	68	20.0	60	N	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.22	640.6	30.18	766.6	70	21.1	75	E	3	1.3	.....	.....	10ks	.....	E	Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter	29.46	748.3	29.93	761.5	70	21.1	95	S	2	0.9	.....	.....	10n	.....	S	1.30	33.0	Light rain	
Fort Griffin, Texas	28.74	730.0	29.93	761.5	67	19.4	95	N	12	5.4	.....	.....	10s	.....	N	1.10	27.9	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.85	758.2	69	20.6	95	N	6	2.7	.....	.....	10s	.....	Calm	3.00	76.2	Cloudy	
Galveston, Texas	29.92	760.0	29.96	761.0	84	28.9	75	SW	3	1.3	.....	0	8ks	.....	S	0	0	Fair	
Grand Haven, Michigan	29.30	744.2	29.92	760.0	76	24.4	77	SW	7	3.1	.....	0	8s	.....	SW	0	0	Fair	
Indianapolis, Indiana	29.20	741.7	29.94	760.5	77	25.0	73	SE	5	2.2	.....	7c;cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.93	760.2	29.95	760.7	87	30.6	76	SE	5	2.2	.....	1k	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.84	733.0	29.96	761.0	88	20.0	100	NW	14	6.3	.....	.....	10n	.....	NW	1.65	41.9	Heavy rain	
Jacksonville, Florida	29.98	761.5	30.00	762.0	78	25.6	86	SW	3	1.3	.....	0	8s	.....	SW	Inap.	Inap.	Cloudy	
Jupiter Inlet, Florida	29.98	761.5	30.00	762.0	78	25.6	86	SW	3	1.3	.....	0	8s	.....	SW	Inap.	Inap.	Cloudy	
Keokuk, Iowa	29.31	744.5	29.89	759.2	73	22.8	90	N	4	1.8	.....	.....	10s	.....	NW	0.36	9.1	Cloudy	
Key West, Florida	29.96	761.0	29.99	761.7	84	28.9	71	Calm	0	0	.....	3c;k	0	Calm	.....	0	0	Fair	
Kittyhawk, North Carolina	30.04	763.0	30.07	763.8	75	23.9	90	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.06	738.1	30.02	762.5	73	22.8	81	NE	4	1.8	.....	9cs	0	Calm	.....	0	0	Cloudy	
La Crosse, Wisconsin	29.32	744.7	30.04	763.0	63	17.2	89	N	6	2.7	.....	.....	10n	.....	Calm	0.75	19.1	Light rain	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	73	22.8	59	E	1	0.4	.....	2k	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.49	749.0	29.81	757.2	82	27.8	83	SE	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Lead City, Dakota	25.00	635.0	.....	.....	51	10.6	79	S	6	2.7	.....	0	0	.....	.....	0.15	3.8	Clear	
Leavenworth, Kansas	29.18	741.2	30.00	762.0	64	17.8	89	N	9	4.0	.....	.....	10ks	.....	NE	1.23	31.2	Cloudy	
Los Angeles, California	29.48	748.3	29.78	756.4	65	18.3	78	E	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.45	747.5	29.96	761.0	74	23.3	81	NE	2	0.9	.....	2ck	Sm'e	SE	Calm	0.10	2.5	Smoky	
Lynchburg, Virginia	29.28	743.7	29.93	760.2	73	22.8	81	E	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.28	743.7	29.96	761.0	66	18.9	64	NW	10	4.5	.....	2k	0	NW	.....	0.16	4.1	Fair	
Mason, Texas	28.38	720.8	30.08	764.0	71	21.7	100	SE	4	1.8	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Memphis, Tennessee	29.66	753.4	29.96	761.0	81	27.2	78	SW	4	1.8	.....	5ck	0	SW	.....	0	0	Fair	
Milwaukee, Wisconsin	29.22	742.2	29.91	759.7	72	22.2	85	N	7	3.1	.....	.....	8ks	.....	SW	0	0	Cloudy	
Mobile, Alabama	29.97	761.2	30.02	762.5	76	24.4	88	N	4	1.8	.....	.....	10s	.....	NE	0.27	6.9	Cloudy	
Montgomery, Alabama	29.79	756.7	30.01	762.2	75	23.9	83	Calm	0	0	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Morgantown, West Virginia	29.02	737.1	30.02	762.5	70	26.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.11	612.4	30.47	773.9	59	15.0	76	Calm	0	0	.....	5c	Haze	Calm	Calm	0	0	Fair	
Nashville, Tennessee	29.47	748.5	29.98	761.5	78	25.6	73	E	4	1.8	.....	2c	5s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.98	761.5	30.09	764.3	82	27.8	63	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
New London, Connecticut	30.04	763.0	30.09	764.3	78	25.6	73	SW	4	1.8	.....	Haze	1s;hz	Calm	W;Calm	0	0	Light haze	
New Orleans, Louisiana	29.91	760.5	30.00	762.0	82	27.8	75	Calm	0	0	.....	8ck	0	Calm	.....	0.20	5.1	Fair	
Newport, Rhode Island	30.04	763.0	30.09	764.3	71	21.7	85	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.94	760.5	30.12	765.0	70	21.1	90	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.02	762.5	30.07	763.8	80	26.7	74	SE	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
North Platte, Nebraska	27.31	693.7	29.89	758.4	57	13.9	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.77	756.1	29.81	757.2	53	11.7	86	S	1	0.4	.....	.....	8s	.....	Calm	0.07	1.8	Cloudy	
Omaha, Nebraska	29.00	736.6	30 05	763.3	64	17.8	84	N	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear	
Oswego, New York	29.75	755.6	30.06	763.5	77	25.0	73	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	29.28	743.7	30.10	764.5	53	11.7	86	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.08	764.0	30.13	765.3	71	21.7	85	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.66	728.0	30.37	771.4	82	27.8	50	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.04	458.2	30.25	768.3	30	—1.1	26	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	52	11.1	29	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.25	742.9	30.02	762.5	75	23.9	72	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.32	744.7	29.94	760.5	77	25.0	73	S	6	2.7	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	29.97	761.2	30.02	762.5	80	26.7	66	NW	4	1.8	.....	1k	Haze	Calm	.....	0	0	Clear	
Portland, Oregon	29.82	757.4	29.93	760.2	57	13.9	75	NW	1	0.4	.....	.....	10ks	.....	S	0	0	Cloudy	
Prescott, Arizona	24.79	629.6	30.15	765.8	50	10.0	45	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 1—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	29.98	761.5	30.00	762.0	80	26.7	87	SE	4	1.8	.....	5ck	2s	Calm	Calm	1.93	49.0	Fair	
Red Bluff, California	29.38	746.2	29.72	754.9	72	22.2	42	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.44	747.8	30.03	762.7	76	24.4	69	SW	7	3.1	.....	5k	0	S	.....	0	0	Fair	
Roseburg, Oregon	29.36	745.7	29.93	760.2	60	10.0	86	Calm	0	0	.....	1ck	0	SW	.....	0	0	Fair	
Sacramento, California	29.79	756.7	29.87	758.7	63	17.2	58	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.36	745.7	29.90	759.4	75	23.9	86	S	6	2.7	.....	.....	10s	.....	Calm	0.49	12.4	Cloudy	
St. Marks, Florida	29.96	761.0	29.93	761.5	76	24.4	95	NE	3	1.3	.....	10ck	0	NE	.....	0.15	3.8	Cloudy	
St. Paul, Minnesota	29.25	742.9	30.06	763.5	64	17.8	70	NW	4	1.8	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Salt Lake City, Utah	25.70	652.8	30.03	762.7	56	13.3	40	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.26	743.7	29.84	757.9	80	26.7	91	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy	
San Diego, California	29.76	755.9	29.84	757.9	64	17.8	89	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.36	745.7	30.00	762.0	75	23.9	77	S	6	2.7	.....	2c	0	N	.....	0	0	Fair	
Sandy Hook, New Jersey	30.08	764.0	30.12	765.0	74	23.3	76	W	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
San Francisco, California	29.68	753.9	29.74	755.4	58	14.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.47	596.1	30.01	762.2	63	17.2	57	E	1	0.4	.....	8k	0	Calm	.....	0	0	Cloudy	
Savannah, Georgia	29.93	760.2	30.02	762.5	82	27.8	79	E	6	2.7	.....	2c	2ks	Calm	E	0.04	1.0	Fair	
Shreveport, Louisiana	29.78	756.4	29.99	761.7	76	24.4	95	SW	2	0.9	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Silver City, New Mexico	24.30	617.2	30.31	769.9	60	15.6	52	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.01	762.2	30.05	763.3	78	25.6	78	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.90	759.4	30.02	762.5	80	26.7	66	S	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Stockton, Texas	26.95	684.5	29.95	760.7	70	21.1	52	E	6	2.7	.....	.....	10ks	.....	E	0	0	Cloudy	
Thatcher's Island, Mass	30.00	762.0	30.00	762.5	69	20.6	90	SW	12	5.4	.....	0	Haze	.....	.....	0	0	Hazy	
Toledo, Ohio	29.31	744.5	29.95	760.7	80	26.7	70	SW	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Tucson, Arizona	27.40	696.0	29.95	760.7	69	20.6	15	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	80	26.7	74	E	9	4.0	.....	2cs	2ks	NW	E	0	0	Fair	
Umatilla, Oregon	29.48	748.8	.....	.....	59	15.0	48	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	78	25.6	86	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.34	618.2	29.82	757.4	50	10.0	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.40	746.7	29.76	755.9	63	17.2	67	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	30.00	762.0	30.12	765.0	71	21.7	95	E	4	1.8	.....	.....	10s;fg	.....	E	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	72	22.2	.....	S	.....	.....	1	2c	0	E	.....	0	0	Clear	
Wilmington, N. Carolina	29.95	760.7	30.03	762.7	77	25.0	82	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.60	650.2	29.90	761.0	47	8.8	41	NE	8	3.6	.....	5c	0	SW	.....	0	0	Fair	
Wood's Holl, Mass	30.04	763.0	30.09	764.3	73	22.8	81	SW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Yankton, Dakota	28.88	733.5	30.15	765.8	63	17.2	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.49	749.0	29.65	753.1	74	23.3	42	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
York Factory, B. A	29.68	753.9	29.73	755.1	63.0	17.2	70	N	10	4.5	.....	0	0	.....	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba. W. I	29.96	761.0	29.98	761.5	82	27.8	74	SE	1.2	0.5	.....	4c	0	NW	.....	0.09	2.3	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.10	764.5	30.11	764.8	81	27.2	87	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	James Gall.
Navassa, W. I	29.87	758.7	29.95	760.7	83	28.3	.....	E	4	1.8	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	29.98	761.5	29.98	761.5	82	27.8	87	E	.....	.....	3	5k	7ks	E	.....	2.320	58.93	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A	25.25	641.3	.....	.....	64.5	18.1	87	Calm	0	0	.....	.....	10n	.....	.....	0.60	15.2	.....	Thomas Herrar.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,025 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,600 (?) ft., or 1,096.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 693.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.5 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,916.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, [illegible] ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,59[illegible] (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or [illegible].6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.69 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.75	755.6	64	17.8	61	16.1	77	SW	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Navy Yard, Pensacola, Fla.	30.15	765.8	77	25.0	78	25.6	86	N	1	0.4	.....	.....	8	.....	NE	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	30.12	765.0	80	26.7	79	26.1	66	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.89*	759.2*	74	23.3	72	22.2	90	E	.....	.....	4	.....	10n	.....	E	Slight	Slight	.....	.....	Gloomy.....	
Alliance, N. 36° 38′, W. 7° 21′	30.06‡	763.5‡	.....	.....	71	21.7	90	NW	.....	.....	3–4	.....	0	.....	.....	.....	.....	Light	N;W	Clear.....	
Ashuelot. Nagasaki, Japan	30.01	762.2	82	27.8	81	27.2	91	NE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Alaska, N. 24° 23′, W. 41° 28′	30.30	769.6	.....	.....	82	27.8	75	ESE	.....	.....	4	.....	6?	.....	ESE	.....	.....	Long	E	Clear?.....	
Canonicus, New Orleans, La.	30.00	762.0	56	13.3	79	26.1	86	SW	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	30.12‡	765.0‡	.....	.....	74	23.3	81	SE	2	0.9	.....	.....	5	.....	SE	0	0	.....	.....	Foggy	
Constellation, N. 31° 15′, W. 68° 56′	30.19‡	766.8‡	.....	.....	80	26.7	96	ENE	.....	.....	1	.....	2	.....	E	.....	.....	Smooth	.....	Clear.....	
Constitution, Havre, France	29.90‡	759.4‡	.....	.....	67	19.4	74	W	.....	.....	3	.....	3	.....	NE	.....	.....	.....	.....	Clear.....	
Despatch, Prince's Islands, Sea of Marmora	29.89‡	759.2‡	.....	.....	75	23.9	77	SSW	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Enterprise, S. 5° 18′ 44″, W. 60° 40′ 34″	29.94‡	760.5‡	.....	.....	77	25.0	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	30.20	767.1	78	25.6	77	25.0	82	SSE	4.8	2.1	.....	.....	5	.....	S	0	0	.....	.....	D. clouds.....	
Gettysburg Alexandria, Egypt	29.80‡	756.9‡	.....	.....	78	25.6	95	NW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear.....	
Guard, Rio de Janeiro, Brazil	30.20	767.1	72	22.2	70	21.1	90	WNW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Fair.....	
Hartford, Rio de Janeiro, Brazil	30.18	766.6	.....	.....	71	21.7	85	N	4.8	2.1	.....	.....	8	.....	N	0	0	.....	.....	Fair.....	
Marion, N. 38° 59′ E. 3° 0′	30.00	762.0	76	24.4	77	25.0	69	NE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	NE	Clear.....	
Michigan, Erie, Pa.	29.59	751.6	79	26.1	79	26.1	82	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.88‡	758.9‡	.....	.....	73	22.8	95	ENE	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.24†	768.1†	.....	.....	80	26.7	82	ENE	7	3.1	.....	.....	5	.....	N;E	0.07	1.8	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.07†	763.8†	.....	.....	64	17.8	83	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Che-foo, China	29.66	753.4	78	25.6	76	24.4	100	SSE	.....	.....	1–2	.....	10	.....	S;E	.....	.....	.....	.....	Misty.....	
Pensacola, Mare Island, California	29.88	758.9	68	20.0	63	17.2	67	SSW	3	1.3	.....	.....	3	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth, New York, N. Y.	30.06‡	763.5‡	.....	.....	75	23.9	86	WSW	.....	.....	0–1	.....	.....	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger, Hong-Kong, China	30.01*	762.2*	.....	.....	85	29.4	79	SSW	.....	.....	1–3	.....	2	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.88	758.9	83	28.3	83	28.3	91	ESE	.....	.....	2	.....	6	.....	Calm	.....	.....	.....	.....	Cloudy.	
Santee, Annapolis, Md.	30.09‡	764.3‡	.....	.....	76	24.4	77	E	.....	.....	1	.....	5	.....	NE	0	0	.....	.....	Fair.....	
St. Louis, League Island, Pa.	30.05	763.3	72	22.2	69	20.6	95	Calm	0	0	.....	.....	10	.....	Calm	0	0	.....	.....	Foggy	
Supply, Havre, France	29.97	761.2	68	20.0	63	17.2	78	E	.....	.....	1–2	.....	2	.....	E	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass.	30.05‡	763.3‡	.....	.....	77	25.0	91	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Leghorn, Italy	29.93‡	760.2‡	.....	.....	77	25.0	86	NNW	.....	.....	0–1	.....	1	.....	N;W	0	0	.....	.....	Clear.....	
Tuscarora, Sihuantanego Bay	29.69	754.1	79	26.1	80	26.7	82	Calm	.....	.....	0	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Vandalia, Smyrna, Turkey	29.81‡	757.2‡	.....	.....	82	27.8	56	W	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	30.03‡	762.7‡	.....	.....	84	28.9	68	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Wyoming, N. 50° 07′, W. 13° 34′	29.64	752.8	67	19.4	60	15.6	88	NE	.....	.....	3	.....	2	.....	.....	.....	.....	Smooth	.....	D. clouds.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Hourly rate in knots.	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Sea-swell.		Weather.	Observer.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
			nches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—	Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of ——————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Yokohama, Japan		20.97*	761.2*	74	23.3	100	SE			3		10		SW	4 hours	Light	SW	Raining	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 42°, W. 124° 40′		30.02*	762.5*				Var.			2		Fog				Smooth	WNW	Foggy	Capt. Seabury.
S. S. City of Peking, N. 43° 02′, W. 164° 18′		30.26†	768.6†	53	11.7	100	S	31	13.9			10		S	Mod.	Small	SSE	Foggy	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 13° 50′, W. 90° 44′		29.90†	759.4†	79	26.1	95	NE			2		9		Calm	Blank	Heavy	SSE	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 46° 31′, W. 49° 3′																			Capt. B. Gleadell.
S. S. Germanic		29.78*	755.1*	49	9.4	93	NW			5				WNW	6 hours	Smooth		D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, Hong-Kong, China		29.92*	760.0*	92	33.3	92	SW			3		6		SW	0			D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	HOURLY RATE IN KNOTS.	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				SEA-SWELL.		WEATHER.	OBSERVER.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Lo'wr	Upper.	Lower.				
			Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	0—10.	0—10.	From—	From—	CHARACTER	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, St. George's Channel		30.15*	765.8*	60	15.6	82	E			6		6		E	0			Misty	Captain Sargent.
S. S. Ohio. Philadelphia, Pa		30.11	764.8	76	24.4	91	SSE			2		8		SSW	Light			Clear?	Captain Morrison.
S. S. Pennsylvania, N. 41° 40', W. 49° 32'		29.96†	761.0†	76	24.4	??	W			4		6?		W	0	Light	W	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 48° 38', W. 21° 52'		30.02*	762.5*				Calm	0	0			10		E		Smooth		Misty	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 66° 13', W. 67° 19'		30.33*	770.4*	36.8	2.7	89	Calm			0		10s			0			Misty	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 2, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.09	764.3	68.4	20.2	80	NE	.....	.....	4	.....	1	.....	.....	0	0	Very fair	Dr. Ollive.
Nemours	.....	.....	30.05	763.2	84.2	29.0	53	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Michel.
Algiers	.....	.....	29.93	760.3	80.2	26.8	63	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.91	759.6	78.8	26.0	81	NNW	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	29.92	760.0	89.6	32.0	50	NE	.....	.....	6	.....	6	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	29.98	761.5	87.8	31.0	.....	NNE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Gau.
Saida	.....	.....	30.11	764.8	84.2	29.0	14	N	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.01	762.3	.....	.....	.....	W	.....	.....	7	.....	6	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.11	764.9	84.6	29 2	34	N	.....	.....	4	.....	2	.....	.....	0	0	Fair	Brugniaux.
Laghouat	.....	.....	30.01	762.2	102.2	39.0	20	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.97	761.3	107.6	42.0	.....	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

Agram	29.23	742.5	29.75	755.7	77.4	25.2	58	NW	.....	.....	3	.....	4	.....	.....	0.472	12.0	Thunder-storm	Prof. Ivan Stoan.
Cracow, I. R. Observatory	29.00	736.5	29.73	755.2	71.2	21.8	56	W	.....	.....	3	.....	9	.....	.....	0.008	0.2	.....	Dr. Wierzbiski.
Eperies	28.87	733.4	29.70	754.3	81.3	27.4	47	W	.....	.....	3	.....	9k;s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.58	725.9	29.77	756.2	73.9	23.3	72	NE	.....	.....	4	.....	3	.....	.....	0.014	0.35	.....	Andreas Rospini.
Hermannstadt	28.45	722.6	29.81	757.1	75.9	24.4	36	NW	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.46	722.9	29.74	755.4	71.6	22.0	55	WSW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.71	729.2	29.65	753.0	73.6	23.1	56	NW	.....	.....	3	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.70	754.3	29.80	757.0	83.3	28.5	59	SSE	.....	.....	2	.....	1ks	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.36	745.7	29.80	756.8	77.7	25.4	53	SW	.....	.....	5	.....	6	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.72	754.8	29.82	757.4	83.8	28.8	53	W	.....	.....	1	.....	6	.....	.....	1.276	32.4	Thunder-storm.	P. Busin.
Vienna	29.10	739.2	29.77	756.2	75.9	24.4	45	W	.....	.....	2	.....	4	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:3 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

Arlon	28.35	720.2	29.83	757.7	60.6	15.9	75	W	.....	.....	2	.....	9	.....	.....	0.409	10.4	.....	Prof. M. Passau.
Brussels	29.62	752.4	29.82	757.4	57.2	14.0	87	W	.....	.....	2	.....	10	.....	NW	0.118	3.00	.....	Royal Observatory
Furnes	29.85	758.3	29.88	758.9	58.8	14.9	75	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.71	754.6	29.84	757.8	60.1	15.6	84	W	.....	.....	1	.....	10	.....	.....	0.024	0.6	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

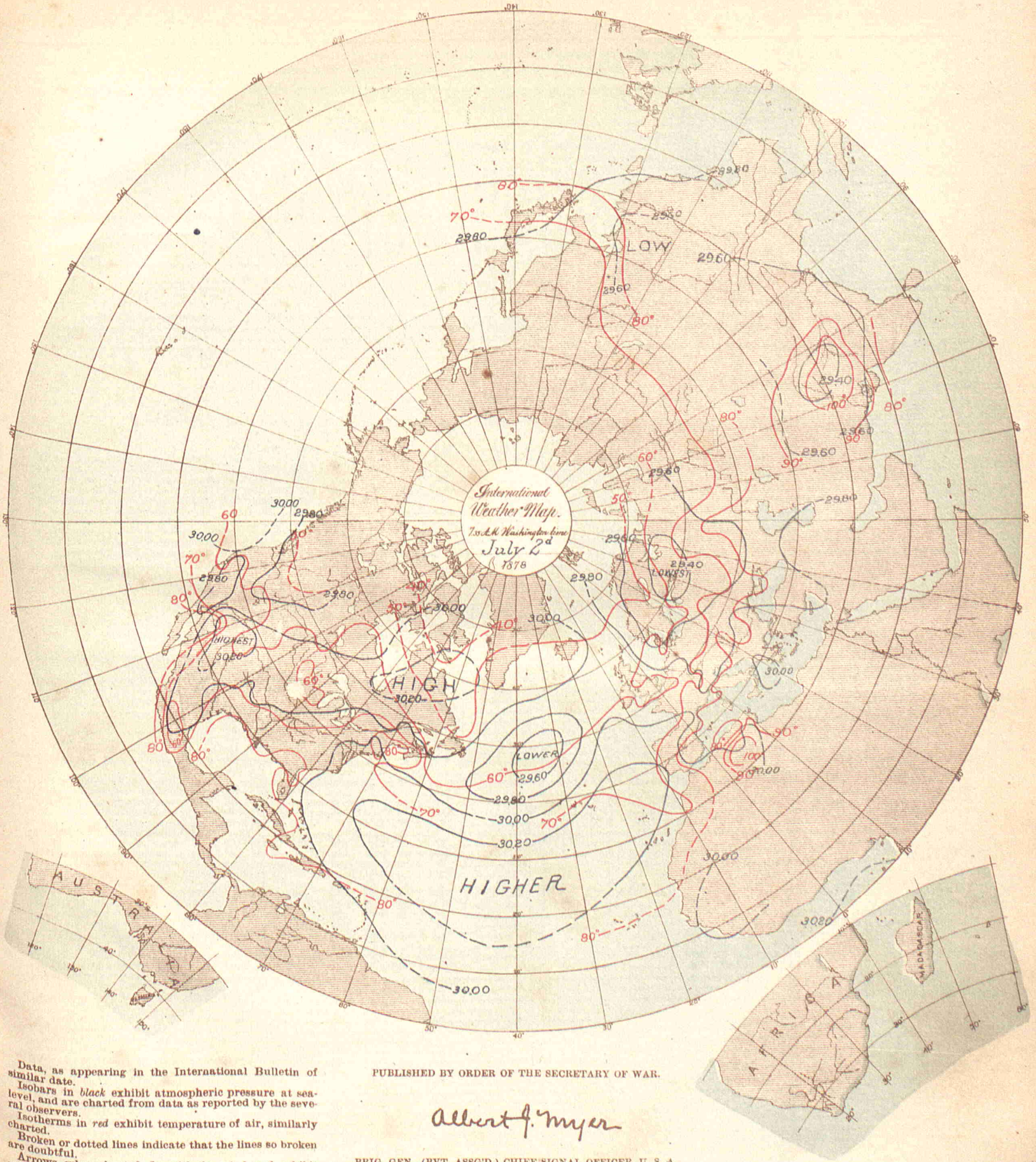
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.85	758.2	29.95	760.7	53.9	12.2	.....	NNW	11	4.9	.....	.....	9	.....	.....	0.005	0.13	Overcast.....	W. Boswell.
Ardrossan	29.94	760.5	29.95	760.7	58	14.4	.....	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	29.97	761.2	58.9	14.9	.....	SE	1	0.4	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.92	760.0	60.0	15.6	.....	NNW	5	2.2	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.98	761.5	62.4	16.9	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.51	749.5	29.91	759 7	56.9	13.8	.....	N	.....	.....	1	.....	7	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.99	761.7	84	28.9	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.88	758.9	59.0	15.0	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	H. Todd. [H.C.
Cardington	.....	.....	29.88	758.9	61.0	16.1	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.74	755.4	29.87	758.7	55.2	12.9	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Drizzling.....	Lt. W. G. Morris, R. E.
Dartmoor	28.46	722.9	29.92	760.0	54.0	12.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	Alexander Watt.
Donaghadee	29.95	760.7	29.97	761.2	55	12.8	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	29.83	757.7	29.85	758.2	57	13.9	.....	NE	.....	.....	3	.....	6	.....	.....	.....	.....	Showery.....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.90	759.4	62.8	17.1	.....	NE	6.6	3.0	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Falmouth, Observatory	29.66	753.4	29.88	758.9	63.8	17.7	.....	NNE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.69	703.4	30.18	766.6	63.6	17.6	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.76	755.9	30.00	762.0	80	23.7	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	Threatening	
Galway, Queen's College	.....	.....	29.94	760.5	66	18.9	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.98	761.5	30.03	762.7	73.9	23.3	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.74	755.4	29.95	760.7	57.9	14.4	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.86	758.4	29.87	758.7	58	14.4	.....	NNE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.70	754.4	29.87	758.7	56.7	13.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G. B. Airy.
Guernsey	29.62	752.3	29.84	757.9	63	17.2	.....	NNW	.....	.....	1	.....	4	.....	.....	Blank	Blank	D. clouds...	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.92	760.0	67	19.4	.....	NE	.....	.....	2	.....	4k	.....	.....	0.25	6.3	Gloomy.....	M. P. Moyle.
Holyhead	29.91	759.7	29.96	761.0	53	14.4	.....	N	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.58	751.3	29.87	758.7	62.0	16.7	.....	WNW	.....	.....	2	.....	3	.....	.....	Blank	Blank	D. clouds.....	J. Fisher.
Kew, Observatory	.....	.....	29.88	758 9	56.0	13.3	.....	NNE	3	1.3	.....	.....	10s;d	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.95	760.7	29.98	761.5	60	15.6	.....	NE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.89	759.2	58.7	14.8	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.82	757.4	29.89	759.2	82.2	27.9	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Sgt. Hewitt, A. H. C.
Nairn	29.85	758.2	29.94	760.5	60	15.6	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.87	758.7	83.6	28.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.74	755.4	29.92	760.0	56.8	13.8	.....	N	.....	.....	2	.....	10k;d	.....	NNE	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.38	746.2	29.90	759.4	57.2	14.0	.....	NNE	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.89	759.2	61	16.1	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	62.5	16.9	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.90	759.4	29.94	760.5	69	20.6	.....	SSE	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	29.75	755.6	29.91	759.7	58	14.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.97	761.2	53.8	12.1	.....	NW	16	7.2	.....	.....	4	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.82	757.4	79.0	26.1	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	Serct. W. H. Lyne.
Sheffield	29.66	753.4	29.94	760.5	56.4	13.6	.....	NNE	.....	.....	2	.....	10	.....	.....	0.08	2.0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.95	760.7	60.8	15.9	61	Calm	.....	.....	0	.....	6	.....	.....	0.015	0.38	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.53	750.0	29.93	760.2	56.9	13.8	.....	NNE	.....	.....	0	.....	10	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.94	760.5	29.97	761.2	57	13.9	.....	N	.....	.....	3	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.67	753.6	29.89	759.2	55.0	12.8	.....	E	.....	.....	0–1	.....	10	.....	.....	Blank	Blank	Overcast.....	Rev. C. H. Griffith, F.M S
Thurso	.....	.....	29.96	761.0	57	13.9	.....	NNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.89	759.2	57	19.4	.....	N	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.97	761.2	68.1	20.1	.....	NE	10	4.5	.....	.....	4	.....	.....	Blank	Blank	Hazy.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.82	757.4	56.0	13.3	94	S	.....	.....	1	.....	5km	.....	.....	0.6	15.	Showery.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.07	763.7	71.7	22.1	62	SE	9	4.0	.....	1	4	.....	SE	0	0	Fine; cloudy	C. Meldrum.
Melbourne, Observatory	30.00	762.0	30.09	764.3	49.7	9.8	87	W	2	0.9	.....	.....	7	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 47° 45′ W. 35° 10′	.....	.....	29.40	746.7	59	15.0	.....	SW	.....	.....	4	.....	9	.....	.....	10*	SW	Showery	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 60° 25′, W. 48° 45′	.....	.....	30.18	766.6	33	0.6	.....	NW	.....	.....	3	.....	10	.....	.....	2	SSE	Foggy	Capt. Alex. Simpson.
Barque Virginia, N. 49° 0′, W. 64° 10′	.....	.....	30.05	763.3	60	15.6	.....	ESE	.....	.....	5	.....	9	.....	.....	5	ESE	Misty.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas					67.6	19.8	89	SE			1	8ck				0.4	10.		Mr. Ansart.
San José	26.20	665.5																	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.55	750.6	29.60	751.8	64.0	17.8	46	SW			4		7						
Fanöe	29.62	752.3	29.64	752.8	60.3	15.7	79	W			6		7						
Godthaab, (Greenland)	30.13	766.4	30.18	766.5	52.0	11.1	85	NE			4		0						
Stykkisholm, (Iceland)	30.02	762.6	30.07	763.7	52.9	11.6	85	W			4		8						
Thorshavn, (Faröe)	29.95	760.7	29.98	761.6	53.1	11.7	78	NE			3		10						
Vestervig	29.38	746.3	29.55	750.6	61.5	16.4	73	SW			2		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.33	745.0	29.88	759.0	69.8	21	63	SW			2		5		SW	0.110	2.8	Cloudy	Collignon, Director.
Amiens, Normal School	29.71	754.6	29.82	757.3	68.7	20.4	74	N			2		5		NW	1.197	30.4	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.82	757.3	29.89	759.3	82.4	28	46	N			1		2		SW	Inap.	Inap.	Partly cl'dy	Mr. Giraud, Director.
Bar-sur-Seine	29.34	745.2	29.85	758.2	70.2	21.2	48	W			3		5kn		W	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.50	750.0	29.84	757.9	70.0	21.1	54	WSW			3		8		W	0.217	5.50	Very cloudy	Normal School.
Besançon	29.08	738.6	29.94	760.4	70.5	21.4	61	SSW			3		8		SW	0.098	2.5	Very cloudy	Normal School.
Bourg-en-Bresse	29.11	739.4	30.04	763.0	72.1	22.3	63	SW			2		5cn		SW	0.08	2.	Cloudy	Normal School.
Bourges, Normal School	29.35	745.6	29.95	760.7	65.1	18.4	82	WNW			2		n		WNW			Raining	A. Wagner, Director.
Brest, Naval Observatory	29.58	751.3	29.82	757.5	65.5	18.6	67	NNW			2		4		NNW	0.236	6.00	Stormy	The Staff.
Carcassonne, Normal School	29.55	750.5	29.94	760.5	79.9	26.6	47	NW			2		2		NW	0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.21	741.9	29.76	755.8	66.2	19	96	S			4		6		N	0.252	6.4	Slightly cl'dy	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.60	751.9	29.91	759.7	69.3	20.7	57	SW			6		2k		SW	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.61	726.7	29.92	759.9	71.6	22.0	49	W			2		5		SW	0.098	2.5	Cloudy-	Alluard, Director.
Commercy, Normal School	29.00	736.6	29.85	758.2	68.0	20	57	WSW			6		5		ENE	0.012	0.3	¾ covered	Dr. Coulet, Director.
Commune de Gréasque*	28.76	730.5	29.90	759.5	86.2	30.1	30	W			2		2		SW	0	0		M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.72	754.8	29.93	760.1	68.0	20.0	67	W			6		5		SW	0.063	1.6	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.57	751.1	29.87	758.7	65.5	18.6	69	SW			4		5		SW	0.030	0.75	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.06	738.0	29.94	760.4	69.6	20.9	53	W			3		5		E	0.071	1.80	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.78	756.3	29.87	758.8	66.9	19.4	61	WSW			2		8		SW	2.842	72.2	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.25	743.0	29.91	759.3	71.6	22	61	W			2		5		W	0	0	Cloudy	M. Galzin, Director.
Mirecourt	28.86	733.0	29.87	758.7	66.7	19.3	54	SW			4		2		NE	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.69	754.2	29.89	759.1	83.5	28.6	31	NW			2		2		W	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.48	748.8	29.85	758.3	68.9	20.5	91	W			2		10		W	0	0	Covered	Bernard, Director.
Paris, Observatory	29.62	752.3	29.85	758.3	62.1	16.7	76	W			1		9		W	Inap.	Inap.	Almost cov'd	National Observatory.
Privas	28.88	733.6	29.90	759.5	75.2	24	56	NE			2		10		NE	0	0	Covered	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	29.91	759.8	29.95	760.6	67.3	19.6	51	SW			7		10		SW	0.10	4.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.75	755.6	29.83	757.7	69.1	20.6	54	NW			3		5		W	0.256	6.5	Cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.09	738.8	30.13	765.4	73.4	23	74	WSW			2		10			0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.26	743.1	29.94	760.5	72.7	22.6	67	ESE			4		5		W	0.209	5.3	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique																			L'Abbé Marchési.
Lyons			29.98	761.6	71.4	21.9	61					8				0.08	2.		L. Jays.
Marseilles, Observatory			29.85	758.2	82.0	28.1	48	W			2–3	0				Inap.	Inap		The Staff.
Mont-Louis	24.86	631.5	30.18	766.5	70.9	21.6	35	WSW	7.4	3.33		1			SE	0	0		M. Cave.
Nice			29.87	758.8	76.1	24.5	87	SW			2	1				0	0	¼ covered	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.58	751.2	29.85	758.2	59.0	15.0	97	WSW			3	10			W	0.051	1.3		Marié Davy, Director
Perpignan			29.95	760.8	78.1	25.6	44	N	11.2	5.00		10			W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.57	573.3			49.6	9.8		SW			2	9				0	0	Fair	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.69	754.0	29.85	758.2	64.9	18.3	63	W			2	10			WSW	0.280	7.1	Thunder-storm	E. Renou.
Toulouse, Observatory	29.33	744.9	30.05	763.3	71.2	21.8	45	NW			1	7				0	0		The Staff.
Tours																0.114	2.9		C. Marquet.
Versailles, (near Paris)			29.86	758.4	64.0	17.8	72	W			1	10				0.030	0.77	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.60	751.8	29.62	752.4	81.3	27.4	89	SSE	6.3	2.8		2k				0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.91	734.4	29.75	755.6	75.7	24.3	62	W			5		7	W		0.08	2.	Thunder-storm.	Prof. Dr. Hoh.
Berlin	29.56	750.9	29.73	755.1	67.6	19.8	46	NW			1		7			0	0		Prof. Arndt.
Breslau	29.25	742.9	29.78	756.3	68.2	20.1	63	NW			4		6			Inap.	Inap.		Royal University Obs'y
Carlsruhe	29.37	746.1	29.78	756.5	72.7	22.6	57	SW			6		5			0.252	6.4		Albert Senz.
Cassel	29.19	741.5	29.84	757.9	63.3	17.4	66	NNW			2		8	W		0.028	0.72		Dr. H. Möhl.
Crefeld	29.63	752.5	29.79	756.6	62.6	17.0	66	NW			2		9			0	0		Director Lose.
Emden	29.68	753.9	29.72	754.9	62.8	17.1	50	NNW			2.5		7			0	0		Prof. Prestel.
Frankfort on the Main	29.45	747.9	29.81	757.1	57.2	14.		N			4		10			0.004	0.1	Thunder-storm.	Physical Society.
Friedrichshafen	28.45	722.6	29.83	757.7	79.5	26.4	65	SW			4		7	WSW		0.713	18.1	Showery.	M. Wilhelm.
Hamburg	29.65	753.0	29.72	754.8	61.6	16.4	69	WNW			5		10ks			Inap.	Inap.		Captain F. Hegemann.
Kiel	29.65	753.2	29.67	753.6	64.4	18.0	53	W			3		10			0.042	1.06		Prof. G. Karsten.
Königsberg, (Prussia)	29.48	748.7	29.56	750.7	63.0	17.2	71	NW			4		6			0.524	13.3		Prof. E Luther.
Köslin			29.65	753.1	62.6	17.0		SW			3		2			0.076	1.9		H. Müller.
Leipsic, Observatory	29.36	745.8	29.77	756.2	67.3	19.6	57	NW			2		7	W		0.067	1.7		Prof. Bruhns.
Memel, Naval School	29.53	750.1	29.58	751.3	59.7	15.4	59	WNW			4		1ck						Reinbrecht and Skalweit.
Neufahrwasser	29.62	752.4	29.64	752.8	64.4	18.0	67	W			3		10			0.067	1.7		A. Lothes.
Posen	29.50	749.2	29.78	756.3	63.5	17.5	60	W			3		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.32	744.8	29.85	758.2	72.3	22.4	54	W			5		10	SW		0	0		Astronomical Observatory.
Stuttgart	28.88	733.5	29.78	756.5	68.0	20.0	68	W			1		8	W		0.024	0.6	Thunder-storm.	Prof. Schoder.
Treves, (Trier)	29.13	740.0	29.65	753.1	72.1	22.3	59	W			8		7			0.342	8.68	Thunder-storm.	Prof. Flesch.
Weissenburg, (Bavaria)	28.33	719.6	29.78	756.9	70.0	21.1	56	W	2	1			7ck		W	0.028	0.7		Dr. Von Bebber.
Wustrow, Naval School	29.65	753.3	29.69	754.1	62.6	17.0	55	WSW			4		4			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.50	749.3	29.87	758.7	88.4	31.9		SW			2.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.53	750.2	29.58	751.4	90.3	32.4	69	SW	26?	11.6?			9		SW	0	0	D. clouds.	
Deesa	29.10	739.1	29.55	750.7	98.8	37.1	46	Calm					10			0	0	Misty	
Bombay	29.68	753.8	29.72	754.8	76.1	24.5	98	WSW	13	5.8			10		SW	2.41	61.2	Overcast	
Poona	27.70	703.6	29.70	754.2	77.4	25.2	76	W					10	W	WNW	0.13	3.3	D. clouds	
Lahore	28.65	727.8	29.34	745.3	109.5	43.1	22	Calm	1.4	0.6			0			0	0	Blue sky	
Belgaum	27.23	691.7	29.78	756.3	73.3	22.9	85	WSW	9	4.0			9	SW	W	0.28	7.1	D. clouds	
Bangalore																			
Roorkee	28.53	724.7	29.38	746.3	99.9	37.7	42	NW	4.4	2.0			7			0	0		
Agra	28.86	733.1	29.39	746.6	104.6	40.3	35	E	5	2.2					E	0	0		
Trichinopoly																			
Nagpr	28.51	724.1	29.53	760.0	87.5	30.8	66	W	5.2	2.3			10		E	0.25	6.4	Overcast	
Madras																			
Lucknow	29.09	738.8	29.44	747.5	100.0	37.8	47	Calm	1.3	0.6						0	0	Blue sky	
Allahabad	29.13	740.0	29.43	747.5	96.1	35.6	53	SW	2.4	1.1			6		S	0	0	Thunder	
Patna	29.33	744.9	29.51	749.4	80.7	27.1	95	E	1.7	0.8			10	E	E	0.57	14.5	Overcast	
Hazaribagh	27.59	700.7	29.56	750.9	82.8	28.2	79	W	7.4	3.3			10		NW	0.56	14.2	Thunder-storm.	
Cuttack	29.64	750.4	29.62	752.5	85.0	29.4	76		2.2	1.0			10			0.67	17.0	Thunder-storm.	
Calcutta (Alipore)	29.55	750.6	29.57	751.1	87.4	30.8	74	S	5	2.2			7	S		0	0	D. clouds	
Goalpara	29.20	741.6	29.58	751.4	80.8	27.1	91	NNW	2.3	1.0			8			0.87	22.1	D. clouds	
Chittagong	29.60	751.9	29.69	754.2	82.9	28.3	83		4.2	1.9			6			0	0		
Sibsagar	29.26	743.1	29.58	751.4	85.6	29.8	78	SW	3.8	1.7			10	W	W	0.18	4.6	D. clouds	
Rangoon																			
Jubbulpore	28.26	717.8	29.60	751.8	86.9	30.5	59	SW	6.4	2.9			6			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal, and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,851 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.2	29.82	757.3	75.9	24.4	71	SW	3.1	1.4			10			0.957	24.3		Prof. Giovanni Clodig.
Padua	29.68	753.8	29.78	756.5	76.8	24.9	58	NNE	3.1	3.6			6	S		0.268	6.8		Prof. Dott. Lorenzoni
Vicenza	29.61	752.0	29.79	756.7	72.0	22.2	78	NNW	1.3	0.6			3	W		0.276	7.0		Conte Alm. Da Schio.
Bergamo	28.48	723.5	29.75	755.6	81.3	27.4	55	S			4		8			0	0		Prof. Trionfini Carlo.
Milan	29.29	744.0	29.78	756.5	83.8	28.8		WSW			2		8	NW		0	0		Prof. Schiaparelli.
Moncalieri	28.92	734.5	29.79	756.6	76.1	24.5	71	ESE	2.5	1.1			6	NW		0.003	1.6		Prof. P. F. Denza.
Mondovi	27.96	710.1	29.80	756.8	70.2	21.2	77	ENE			4		2	W		0.039	1.0		Prof. D. C. Bruno.
Porto Maurizio	29.73	755.2	29.87	758.7	79.0	26.1	65	SSW			2		3	SSW		0	0		Prof. L. Vassallo.
Genoa	29.71	754.7	29.88	758.9	73.8	23.2	79	SE	11.9	5.3			10	SE		0	0		Prof. G. M. Garibaldi.
Parma	29.46	748.2	29.76	755.9	83.8	28.8	40	SW			4		3			0	0		Prof. P. Pigorini.
Florence	29.61	752.1	29.86	758.4	84.2	29.0	41	W			4		1			0	0		Cav. F Meucci.
Leghorn	29.80	756.8	29.88	758.9	78.8	26.0	62	W	2.5	1.1			1			0	0		Prof. P. Monte.
Pesaro	29.77	756.2	29.82	757.4	80.2	26.8	53	NE					0			0	0		Prof. Luigi Guidi.
Urbino	28.34	719.9	29.84	758.0	81.0	27.2	39	SW			4		2			0	0		Prof. P. Serpieri.
Grosseto	29.79	756.7	29.90	759.4	82.8	28.2	54	SSW			4		2	S		0	0		Avv. P. Ponticelli.
Rome	29.73	755.1	29.90	759.4	86.7	30.4	50	W	9.4	4.2			0			0	0		Prof. P. G. S. Ferrari.
Naples, O. U	29.75	755.6	29.94	760.5	84.0	28.9	56	SSW			2		0			0	0		Prof. L. Palmieri.
Lecce	29.64	752.8	29.88	759.0	86.0	30.0	32	WSW	5.6	2.5			0			0	0		Prof. C. De Giorgi.
Cagliari	29.69	754.0	29.87	758.7	80.6	27.0	73	S			4		2	W		0	0		Prof. A. Pacinotti.
Cosenza	29.04	737.5	29.88	759.0	93.0	33.4	57	SW	0	0			0			0	0		Prof. F. D. Conti.
Palermo	29.67	753.7	29.92	760.0	79.0	26.1	75	ENE	1.8	0.8			2			0	0		Prof. G. Cacciatore.
Syracuse	29.76	755.6	29.83	757.7	83.3	28.5	66	SE			2		3	SW		0	0		Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.39	746.5	29.95	760.6	83.3	28.5	60	ESE	0	0			2	SW		0	0		Prof. F. Brioschi.

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

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.60	751.8	29.80	756.9	77.8	25.4	77	SSE	11.7	5.2			10s			0.005	0.13	Cloudy	The Observatory.
Tokei (Yeddo)	29.84	757.9	29.90	759.4	72.1	22.3	88	SSE	9.7	4.3			10s			0	0	Cloudy	
Tokei (Yeddo) University	29.79	756.7	29.88	759.0	72	22.2	92	S	6.5	2.9			10ks			0.96	24.4	Cloudy	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca																			L. Castillo, A. E.
Guadalajara	25.05	636.2	30.00	762.0	58.6	14.8	86	E	0.9	0.4		0	9		E	0	0	Very cloudy	Prof. L. Perez.
Guanajuato	23.68	601.6	29.89	757.5	67.1	19.5	68	E				0	9		SE	0	0	Very cloudy	Prof. V. Fernandez
Leon					66.6	19.2	80	S	0.9	0.4		2c	0			0.01	0.2	Pleasant	Prof. M. Leal.
Mexico	23.09	586.0	30.07	763.7	59.0	15.0	76	NW	3.4	1.5		3ck	0	N		0.04	1.0		Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Orizaba																			M. V. de Leon, M. E.
Pabellon, (Aguascalts)					63.5	17.5	87	Calm	0	0		0ck	2s			Inap.	Inap.	Cloudy	Prof. B. Gonzalez.
Puebla	23.32	592.4	29.96	761.0	57.2	14.0	84	E	1.6	0.7		0	2os			Inap.	Inap.	Clear	Prof. O. Velazquez.
Toluca																			Prof. F. R. Bayly.
Tlacotalpam	29.94	760.5	29.95	760.8	76.1	24.5	96	NW	0.9	0.4		0	10n		NW	0.08	2.0	Threatening	G. Barroeta, M. D.
San Luis Potosi	24.25	615.1	30.19	766.7	61.0	16.1	79	E	0.9	0.4		0	10k		E	0	0	Covered	Prof. J. Rossell.
Vera-Cruz	29.94	760.3	29.96	761.0	78.8	26.0	84	WNW	1.3	0.6		0	10kn		S	1.28	34.4	Dark	J. A. Bonilla, M. E.
Zacatecas					59.9	15.5	86	E	5.1	2.3		4	4	S	E	0	0	Cloudy	Prof. P. Spina. [M.M. D. D
Puebla, (Catholic Institute)	25.25	590.6	29.98	761.6	54.0	12.0	90	NE	4.5	2.0		0	0			Inap.	Inap.	Clear	M. Tena, F. L. Paramo,
Morelia	24.07	611.5			54.4	18.0	58	NE	0.9	0.4		0	10k			0.22	5.5	Cloudy	M. V. de Leon, C. E.
Durango																			R. Banda, C. E.
Colima	28.34	719.8	29.96	761.0	78.8	26.0	84						10k			0.06	1.4	Covered	

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.85	758.2	29.85	758 2	59.4	15.2		NW			3					0	0		
Groningen	29.78	755.1	29.78	756.5	61.0	16.1		NW			2					0	0		
Helder	29.80	757.0	29.80	757.0	59.0	15.0		NW			4					0.008	0.2		
Hellevoetsluis	29.79	756 6	29.79	756.6	65.3	18.5	62	N			3								
Utrecht	29.77	756.2	29.82	757.4	60.8	16.0	66	WNW			2					0	0	Very cloudy	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r —10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Bergen	29.59	751.6	29.65	753.0	55.4	13.0	49	NNW	29.1	13.0	.....	.....	0	.....	.....	0	0	....	
Brönö	29.56	750.7	29.60	751.7	55.4	13.0	62	N	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.41	747 1	29.56	750.7	58.6	14.8	52	SSW	9	4	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.66	753.4	29.71	754.5	44.6	7.0	63	NE	11	5	.....	.....	3	.....	.....	0	0	... .	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.98	761.6	30.17	766.4	71.4	21.9	89	WSW	5.6	2.5	.....	.....	4	.....	.....	0.236	6.0	.....	Dr. J. A. Sampaio.
Campo Major	29.11	739.4	30.10	764.5	78.6	25.9	31	WNW	13.0	5.8	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.21	767.2	30.29	769.4	74.1	23.4	54	SW	4.9	2.2	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.85	758.3	30.21	767.2	71.8	22.1	53	NNW	12.5	5.6	.....	.....	3	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.17	766.2	30.24	768.0	74.5	23.6	78	SW	14.3	6.4	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, N. 0° 28′ 51″, E. 6° 9′	.....	.....	30.22	767.6	76.6	24.8	.....	SSW	.....	.....	3	.....	3	.....	SSW	3	SSW	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.37	771.4	70.7	21.5	.....	SE	.....	.....	3	.....	4	.....	SSW	0	.....	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	30.03	762.7	82.4	28.0	.....	NNE	.....	.....	3	.....	5	.....	NE	3	SE	D. clouds ...	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.95	760.7	.....	.....	.....	W	.....	.....	1	.....	5	.....	.....	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.27	743.4	29.68	753.8	65.5	18 6	57	WNW	18	8	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.10	739.1	29.50	749.3	70.0	21.1	47	WSW	7	3	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.10	739.1	29.34	745.1	61.7	16.5	81	WNW	4	2	.....	.....	9n;k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.23	742 4	29.24	742 8	64.9	18.3	77	NE	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.00	736.7	29.61	752.0	72.3	22.4	58	NW	4	2	.....	.....	5k	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.67	753.7	29.74	755.5	85.6	29.8	45	NNW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.77	756.1	29.79	756.6	74.8	23.8	81	NNW	7	3	.....	.....	3	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.97	735.9	29.50	749.3	64.2	17.9	89	S	7	3	.....	.....	8ks	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.41	747.0	29.60	751.9	82.4	28.0	39	SSW	13	6	.....	.....	5s	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.35	745.4	29.37	745.9	66.0	18.9	66	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof
Tiflis	28.48	723.5	29.84	757.8	76.1	24.5	50	Calm	0	0	.....	.....	6n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.71	754.6	29.63	752.5	89.4	31.8	30	N	7	3	.....	.....	8ck;s	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.35	745.5	29.60	751.5	84.2	29.0	37	SSE	9	4	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.86	733.0	29.77	756.1	69.4	20.8	55	Calm	0	0	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.40	746.7	29.61	752.2	88.7	31.5	46	NNW	7	3	.....	.....	10kn	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.15	714.9	29.72	754.9	90.0	32.2	38	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.21	741.9	29.71	754.5	72.0	22.2	39	S	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.34	745.1	29.61	752.2	63.0	17.2	57	WSW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.43	747.4	29.57	751.0	82.0	27.8	66	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.81	757.2	29.91	759.7	79.5	26.4	64	SE	1.7	0.75	.....	7	4	S	.....	0	0	Misty.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.01	762.2	30.07	763.6	74.8	23.8	55	NW	2.7	1.21	.....	.....	10	.....	.....	0	0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.14	689.4	.....	.....	64.9	18.3	58	SW	6.1	2.72	.....	.....	10	.....	.....	0	0	Covered.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.84	707.0	29.95	760.8	81.9	27.7	23	NW	30.3	13.55	.....	5	3	NW	.....	0	0	.....	The Staff.
Murcia, Met. Obs'y	29.78	756.3	29.92	759.9	97.2	36.2	28	NE	6.0	2.69	.....	.....	.....	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.17	740.8	30.07	763 6	59.5	15.3	97	W	3.3	1.47	.....	.....	10	.....	.....	0.449	11.4	Raining.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.88	757.7	29.89	759.4	81.2	27.3	81	S	0.9	0.4	.....	9c;cs	0	.....	.....	0	0	Cloudy.	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.04	762.9	30.13	765.4	73.4	23.0	55	WNW	23.2	20.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.91	759.6	30.00	761.9	82.4	28.0	86	SE	3.0	1.33	.....	1k	3k	SE	SE	0.581	14.75	Clear	Leonardo de Tejeda, Ch'f Eng'rs.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Low'r 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.43	747.6	29.47	748.6	50.4	10.2	.....	NE	.....	.....	6	.....	8	.....	.....	0.551	14.0	.....	
Umea	29.44	747 7	29.49	749.0	48.9	9.4	74	N	.....	.....	7	.....	10	.....	.....	0.165	4.2	.....	
Hernosand	29.39	746.6	29.45	747.9	54.3	12.4	59	NW	.....	.....	4	.....	9	.....	.....	0.012	0.3	Raining	
Stockholm	29.31	744.4	29.48	748.9	58.6	14.8	51	N	.....	.....	4	.....	4	.....	.....	0.319	8.1	.....	
Wisby	29.46	748.2	29.52	749.7	59.4	15.2	66	WNW	.....	.....	6	.....	3	.....	.....	0.646	16.4	.....	
Sub-Series.																			
Upsala	29.39	746.5	29.47	748.4	58.1	14.5	52	NW	8.1	3.6	.....	.....	9	.....	NW	0.087	2.23	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.51	724.1	29.88	759.0	72.1	22.3	52	SE	.....	.....	2	.....	6	.....	.....	0.020	0.5	Cloudy	The Observatory.
Zurich	28.29	718.6	29.89	759.1	66.7	19.3	76	W	.....	.....	2	.....	8	.....	.....	0.071	1.8	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.1 mm.; Thermometer, +0.2 cent.; Relative Humidity, —2 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.91	759.6	83.1	28.4	60	S	4	2.0	.....	.....	8	.....	WSW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salonica	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. Stefanidès.
Valona	.....	.....	30.04	763.1	84.7	29.3	.....	W.	.....	.....	1	.....	0	....	.....	0	0	Clear.	A. Bertrand.
Varna	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Imperial Observatory.
Sub-Series.																			
Beirut,(Syria,) Lee Obs'y	29.68	753.9	29.79	756.7	84.0	28.9	70	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.72	754.9	30.01	762.2	85	29.4	.....	SW	3	1.3	.....	0	0	.....	.....	0	0	....	Hon. J. Ferguson.
Brockville, Ontario	29.72	754.9	30.01	762.2	85	29.4	.....	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear.	W. R. Bigg.
*Chatham, N B	29.91	759.7	29.97	761.2	70	21.1	75	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.87	758.7	29.91	759.7	71	21.7	79	S	4	1.8	.....	.....	8ks	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.96	761.0	78.8	26.0	74	SW	.....	.....	1	0	0	....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.74	755.4	29.79	756.7	52.3	11.3	100	Calm	.....	.....	.....	.....	10	.....	.....	0.16	4.1	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.98	761.5	56	13.3	87	N	32	14.3	.....	0	Haze	.....	E	0	0	Hazy	J. McWilliams.
Fredericton, N. B	29.89	759.2	29.95	760.7	80.9	27.2	63	Calm	0	0	.....	0	0	....	.....	0	0	Clear.	Prof. Harrison.
*Fort Garry Manitoba	29.19	741.4	29.99	761.7	80	15.6	94	S	12	5.4	.....	5k	5n	W	W	0.170	4.32	Threatening	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.90	734.0	29.97	761.2	64	17.8	94	Calm	.....	.....	0	0	0	....	.....	0	0	Foggy	James Grant.
*Halifax, N. S	29.76	755.9	29.89	759.2	75	23.9	77	SE	3	1.3	.....	2ck	0	NW	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.63	752.6	29.98	761.5	76.2	24.6	81	SE	.....	.....	1	0	0	....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.98	761.5	30.01	762.2	52	11.1	73	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.67	753.6	29.99	761.7	75	23 9	75	S	10	4.5	.....	0	0	....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.98	761.5	30.02	762.5	56.0	13.3	.....	SE	12	5.4	.....	9k	0	SE	.....	0	0	Overcast	C. H. Rigby.
*Montreal, Quebec	29.78	756.4	29.97	761.2	82	27.8	61	SW	3	1.3	.....	0	0	....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.91	744.5	29.97	761.2	73	22.8	90	N	6	2.7	.....	2cs	2ks	SW	SW	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.25	742.9	29.90	761.0	77.2	25.1	75	S	.....	.....	1	8k	0	....	.....	0	0	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.30	744.2	29.95	760.7	76	24.4	86	Calm	0	0	.....	0	0	....	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.92	760.0	29.97	761.2	58.3	14.6	.....	SE	3	1.3	.....	.....	.....	....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.34	745.2	29.96	761.0	67	19.4	91	NW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.69	754.1	30.00	762.0	75	23.9	81	Calm	.....	.....	0	0	0	....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.53	750.0	29.96	761.0	73	22.8	78	Calm	0	0	.....	Haze	0	....	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.88	758.9	29.93	760.2	78	25.6	75	NW	.....	.....	.....	0	0	....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.80	756.9	29.97	761.2	60	15.6	88	S	3	1.3	.....	0	0	....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.90	744.2	29.98	761.5	68	20.0	85	N	2	0.9	.....	.....	10ks	.....	S	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.22	742.2	29.96	761.0	70	21.1	85	N	5	2.2	.....	5k	Fog	N	NW	0	0	Foggy	R. J. Cole.
Stratford, Ontario	28.70	729.0	29.92	760.0	70.6	21.4	88	NW	3	1.3	.....	2cs	7s	....	.....	0	0	Cloudy	C. J. MacGregor, M. A
*Sydney, C. B	29.98	761.5	30.01	762.2	56	13.3	90	E	6	2.7	.....	.....	10n	.....	E	0.02	0.5	Light rain	T. C. Hill.
*Toronto, Ontario	29.60	751.8	29.96	761.0	77	25.0	77	Calm	0	0	.....	5cs	0	W	.....	0	0	Fair	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	52.0	11.1	93	NE	.....	.....	5	5	.....	.....	.....	0.02	0.5	Fine	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

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

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

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.79	756.7	30.00	762.0	77	25.0	69	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.39	746.5	30.02	762.5	69	15.0	94	NW	11	4.9	.....	.....	10s	.....	N	1.41	35.8	Cloudy	
Atlantic City, New Jersey	30.05	763.3	30.07	763.8	74	23.5	85	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.78	756.4	29.96	761.0	83	28.3	67	E	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Baltimore, Maryland	30.00	762.0	30.05	763.3	76	24.4	86	SW	3	1.3	.....	8k	Fog	SW	Calm	0	0	Fair	
Barnegat, New Jersey	30.04	763.0	30.06	763.5	78	25.6	73	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.12	714.2	29.98	761.5	68	20.0	65	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
BoiseCity, Idaho	26.93	684.0	29.81	757.2	60	15.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.86	758.4	30.01	762.2	83	28.3	58	W	5	2.2	.....	2ck	Haze	NE	Calm	0	0	Clear	
Brackettville, Texas	28.85	732.8	29.84	757.9	74	23.3	86	NE	2	0.9	.....	10cs	0	Calm	.....	0	0	Cloudy	
Breckenridge, Minnesota	29.11	739.4	30.08	764.0	60	15.6	88	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.88	758.9	29.94	760.5	78	25.6	90	Calm	0	0	.....	0	2ks	.....	SW	0	0	Clear	
Buffalo, New York	29.28	743.7	29.94	760.5	76	24.4	69	S	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	71	21.7	41	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.76	755.9	30.00	762.0	81	27.2	62	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.60	751.8	29.98	761.5	67	19.4	89	NW	13	5.8	.....	.....	10n	.....	Calm	0.89	22.6	Light rain	
Camp Apache, Arizona	.....	.....	.....	.....	71	21.7	45	NE	.....	.....	1	2c	5ks	S	Calm	0	0	Cloudy	
Camp Grant, Arizona	25.28	642.1	30.08	764.0	70	21.1	53	E	.....	.....	2	0	8s	.....	NE	0.03	0.8	Cloudy	
Camp Verde, Arizona	26.72	678.7	30.21	767.3	80	26.7	34	S	.....	.....	2	0	0	.....	.....	0	0	Clear	
Campo, California	27.36	691.9	29.93	760.2	49	9.4	85	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.04	763.0	30.05	763.3	79	26.1	78	SE	12	5.4	.....	2k	0	SE	.....	0.02	0.5	Fair	
Cape Henry, Virginia	30.02	762.5	30.05	763.3	76	24.4	86	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.00	762.0	30.02	762.5	80	26.7	78	SE	17	7.6	.....	2k	0	E	.....	Inap.	Inap.	Fair	
Cape May, New Jersey	30.04	763.0	30.07	763.8	74	23.3	81	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.92	760.0	29.98	761.5	77	25.0	91	NE	8	3.6	.....	.....	10n	.....	NE	0.03	0.8	Light rain	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	54	12.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.36	745.7	30.04	763.0	61	16.1	77	NE	10	4.5	.....	2c	0	NE	.....	0.10	2.5	Clear	
Cincinnati Ohio	29.26	743.2	29.88	758.9	74	23.3	86	SE	4	1.8	.....	.....	10n	.....	S	0.92	23.4	Light rain	
Cleveland, Ohio	29.21	741.9	29.89	759.2	77	25.0	69	SE	6	2.7	.....	5cs	2s	Calm	Calm	0	0	Fair	
Columbus, Ohio	29.11	739.4	29.87	758.7	79	26.1	70	S	.....	.....	1	10cs	0	Calm	.....	0	0	Cloudy	
Corpus Christi, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Corsicana, Texas	29.51	749.5	29.97	761.2	72	22.2	95	N	9	4.0	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Davenport, Iowa	29.52	749.8	30.15	765.8	63	17.2	78	NE	10	4.5	.....	0	0	.....	.....	0.20	5.1	Clear	
Denison, Texas	29.24	742.7	30.01	762.2	69	20.6	95	N	6	2.7	.....	.....	10s	.....	N	0.15	3.8	Cloudy	
Denver, Colorado	24.88	631.9	30.10	764.5	60	15.6	71	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.32	744.7	29.97	761.2	63	17.2	83	NE	8	3.6	.....	.....	10s	.....	NE	0.03	0.8	Threatening	
Dodge City, Kansas	27.59	700.8	29.86	758.4	61	16.1	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.48	748.8	30.18	766.6	59	15.0	70	NE	3	1.3	.....	c	Fog	.....	Calm	0.15	3.8	Clear	
Duluth, Minnesota	29.51	749.5	30.18	766.6	62	16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.20	741.7	29.91	759.7	74	23.3	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	29.87	758.7	29.93	760.2	78	25.6	69	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	81	27.2	47	SE	7	3.1	.....	.....	10s	.....	SE	0	0	Cloudy	
Erie, Pennsylvania	29.24	742.7	29.91	759.7	77	25.0	73	S	11	4.9	.....	2c	2s	S	.....	0	0	Fair	
Escanaba, Michigan	29.52	749.8	30.17	766.3	61	16.1	66	N	12	5.4	.....	0	0	.....	.....	0 03	0.8	Clear	
Florence, Arizona	.....	.....	.....	.....	86	30.0	33	E	.....	.....	1	2cs	5ks	S	S	0	0	Fair	
Fort Craig, New Mexico	25.63	651.0	29.70	754.4	69	20.6	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.32	643.1	30.28	769.1	65	18.3	78	E	6	2.7	.....	.....	10ks	.....	E	0.14	3.6	Cloudy	
Fort Gibson, Indian Ter	29.51	749.5	30.03	762.7	69	20.6	85	N	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear	
Fort Griffin, Texas	28.79	731.3	30.03	762.7	70	21.1	85	N	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.89	733.8	29.98	761.5	65	18.3	83	N	11	4.9	.....	0	1s	.....	Calm	0	0	Clear	
Galveston, Texas	29.88	758.9	29.92	760.0	82	27.8	87	W	6	2.7	.....	5cs	0	W	.....	0.42	10.4	Fair	
Grand Haven, Michigan	29.42	747.3	30.06	763.5	61	16.1	82	NE	10	4.5	.....	0	8s	.....	Calm	0.45	11 .4	Fair	
Indianapolis, Indiana	29.18	741.2	29.93	760.2	67	19.4	89	N	12	5.4	.....	.....	10n	.....	N	0.13	3.3	Light rain	
Indianola, Texas	29.91	759.7	29.93	760.2	84	28.9	79	W	7	3.1	.....	1ck	0	Calm	.....	Inap.	Inap.	Clear	
Jacksboro, Texas	28.88	733.5	29.97	761.2	69	20.6	75	NE	8	3.6	.....	0	0	.....	.....	0.77	19.6	Clear	
Jacksonville, Florida	29.88	758.9	29.90	759.4	83	28.3	71	NE	6	2.7	.....	2k	0	NE	.....	0.10	2.5	Fair	
Keokuk, Iowa	29.47	748.5	30.07	763.8	66	18.9	79	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.83	757.7	29.86	758.4	81	27.2	83	W	15	6.7	.....	.....	10n	.....	Calm	0.22	5.6	Light rain	
Kittyhawk, North Carolina	30.03	762.7	30.05	763.3	77	25.0	86	SE	9	4.0	.....	2k	0	S	.....	0.02	0.5	Fair	
Knoxville, Tennessee	28.98	736.1	29.94	760.5	75	23.9	77	NE	2	0.9	.....	9cs	0	Calm	.....	0	0	Cloudy	
La Crosse, Wisconsin	29.45	748.0	30.18	766.6	60	15.6	82	N	3	1.3	.....	2k	0	N	.....	0 04	1.0	Clear	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	60	20.6	61	S	4	1.8	.....	5c	2k	Calm	SE	0	0	Fair	
Laredo, Texas	29.53	750.0	29.86	758.4	75	23 9	90	NE	4	1.8	.....	10ck	0	Calm	.....	0.70	17.8	Cloudy	
Lead City, Dakota	24.78	629.4	.....	.....	65	18.3	54	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.30	744.2	30.12	765.0	65	18.3	84	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.53	750.0	29.86	758.4	61	16.1	91	W	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.37	746.0	29.90	759.4	73	22.8	85	W	2	0.9	.....	.....	10s	.....	SE	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.31	744 5	29.96	761.0	76	24.4	78	E	2	0.9	.....	0	8ks	.....	E	0	0	Cloudy	
Marquette, Michigan	29.48	748.8	30.17	766.3	62	16 7	58	NW	8	3.6	.....	0	0	.....	.....	0.08	2.0	Clear	
Mason, Texas	28.37	720.6	30.07	763.8	70	21.1	95	NE	5	2.2	.....	.....	10s	.....	NE	0.40	10.2	Cloudy	
Memphis, Tennessee	29.65	753.1	29.98	761.0	72	22.2	85	N	7	3 1	.....	.....	10s	.....	NW	0.41	10.4	Cloudy	
Milwaukee, Wisconsin	29.39	746.5	30.10	764.5	61	16.1	82	NE	12	5.4	.....	0	0	.....	.....	0.65	16.5	Clear	
Mobile, Alabama	29.86	758.4	29.90	759.4	78	25.6	86	SE	4	1.8	.....	5c	5s	Calm	Calm	0	0	Cloudy	
Montgomery, Alabama	29.70	754.4	29.92	760.0	81	27.2	74	E	3	1.3	.....	10cs;ck	0	Calm	.....	0	0	Cloudy	
Morgantown, West Virginia	28.95	735.3	29.94	760.5	82	27.8	60	Calm	0	0	.....	2c	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	24.06	611.1	30.42	772.7	60	15.6	66	Calm	0	0	.....	2c	Haze	Calm	Calm	0	0	Clear	
Nashville, Tennessee	29.41	747.0	29.92	760.0	73	22.8	95	E	2	0.9	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
New Haven, Connecticut	29.94	760.5	30.05	763.3	74	23.3	86	Calm	0	0	.....	.....	10s;hz	.....	Calm	0	0	Cloudy	
New London, Connecticut	30.01	762.2	30.06	763.5	71	21.7	95	SW	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
New Orleans, Louisiana	29.83	757.7	29.89	759.2	79	26.1	82	N	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Newport, Rhode Island	30.00	762.0	30.05	763.3	69	20.6	95	SW	7	3.1	.....	.....	Fog	.....	SW	0	0	Foggy	
New York, New York	29.89	759.2	30.06	763.5	72	22.2	85	SW	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.00	762.0	30.05	763.3	81	27.2	74	SE	8	3.6	.....	5k	0	SE	.....	Inap.	Inap.	Fair	
North Platte, Nebraska	27.25	692.1	29.77	756.1	61	16.1	77	SE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.79	756.7	29.83	757.7	53	11.7	86	S	6	2.7	.....	0	5s	.....	S	0.02	0.5	Fair	
Omaha, Nebraska	29.07	738.4	30.12	765.0	65	18.3	78	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.69	754.1	29.99	761.7	78	25.6	73	S	4	1.8	.....	5k	0	S	.....	0	0	Fair	
Pembina, Dakota	29.21	741.9	30.01	762.2	61	16.1	82	S	16	7.2	.....	2k	0	SW	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.00	762.0	30.05	763.3	76	24.4	81	W	3	1.3	.....	1k	Sm'e	NW	Calm	0	0	Cloudy	
Phœnix, Arizona	28.71	729.2	30.39	771.9	88	31.1	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.06	459.2	30.28	769.1	39	3.9	46	NE	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.04	610.6	29.81	757.2	63	17.2	19	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.16	740.7	29.93	760.2	76	24.4	69	S	6	2.7	.....	5k	0	SW	.....	0	0	Fair	
Port Huron, Michigan	29.33	745.0	29.98	761.5	60	15.6	94	N	16	7.2	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Portland, Maine	29.91	759.7	29.96	761.0	77	25.0	73	W	1	0.4	.....	1k	Haze	Calm	.....	0	0	Clear	
Portland, Oregon	29.86	758.4	29.96	761.0	55	12.8	80	S	4	1.8	.....	.....	10n	.....	SW	0.09	2.3	Light rain	
Prescott, Arizona	24.82	630.4	30.18	766.6	64	17.8	25	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	29.81	757.2	29.83	757.7	74	23.3	95	E	16	7.2	.....	.....	10n	.....	E	0.56	14.2	Light rain	
Red Bluff, California	29.43	747.5	29.78	756.4	68	20.0	80	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.37	746.0	29.95	760.7	78	25.6	65	SW	5	2.2	.....	1k	0	S	.....	0	0	Clear	
Roseburg, Oregon	29.42	747.3	29.99	761.7	52	11.1	96	NW	1	0.4	.....	.....	10n	.....	Calm	0.12	3.0	Light rain	
Sacramento, California	29.70	754.4	29.78	756.4	61	16.1	71	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.04	763.0	65	18.3	68	N	20	8.9	.....	2c	0	Calm	.....	0.09	2.3	Clear	
St. Marks, Florida	29.88	758.9	29.90	759.4	76	24.4	91	NE	4	1.8	.....	1c	0	Calm	.....	0.75	19.1	Clear	
St. Paul, Minnesota	29.33	745.0	30.14	765.5	62	16.7	83	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.53	648.4	29.86	758.4	70	21.1	21	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.27	743.4	29.83	757.7	75	23.9	81	Calm	0	0	.....	5cs	5s	W	Calm	0.15	3.8	Cloudy	
San Diego, California	29.84	757.9	29.91	759.7	63	17.2	89	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.33	745.0	29.98	761.5	69	20.6	90	N	18	8.0	.....	.....	10s	.....	N	0	0	Threatening	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	83	28.3	87	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
San Francisco, California	29.81	757.2	29.87	758.7	52	11.1	93	SW	12	5.4	.....	.....	Fog	.....	SW	0	0	Foggy	
Santa Fé, New Mexico	23.49	596.6	30.03	762.7	59	15.0	65	SE	4	1.8	.....	1k	0	SE	.....	0	0	Clear	
Savannah, Georgia	29.85	758.2	29.94	760.5	78	25.6	82	NE	10	4.5	.....	2k	0	NE	.....	0	0	Clear	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	76	24.4	86	N	5	2.2	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Silver City, New Mexico	24.40	621.3	30.41	772.4	62	16.7	72	W	2	0.9	.....	0	0	.....	.....	0.07	1.8	Clear	
Smithville, North Carolina	29.98	761.5	30.01	762.2	80	26.7	78	E	11	4.9	.....	0	8ks	.....	E	0	0	Cloudy	
Springfield, Massachusetts	29.35	758.2	29.98	761.5	77	25.0	73	S	3	1.3	.....	2ck	0	Calm	.....	0	0	Fair	
Stockton, Texas	27.04	686.8	30.04	763.0	66	18.9	45	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.94	760.5	29.99	761.7	69	20.6	85	SW	12	5.4	.....	1k	Haze	E	.....	0	0	Hazy	
Toledo, Ohio,	29.30	744.2	29.95	760.7	67	19.4	89	E	14	6.3	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Tucson, Arizona	27.48	698.0	30.03	762.7	84	28.9	29	E	.....	.....	1	8k	0	E	.....	0	0	Fair	
Tybee Island, Georgia	29.87	758.7	29.90	759.4	77	25.0	91	E	10	4.5	.....	0	8s	.....	E	0.33	8.4	Clearing,	
Umatilla, Oregon	29.49	749.0	.....	.....	54	12.2	74	SW	8	3.6	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Vicksburg, Mississippi	29.67	753.6	29.92	760.0	76	24.4	95	Calm	0	0	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Virginia City, Montana	24.12	612.6	29.60	751.8	56	13.3	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.49	749.0	29.85	758.2	65	18.3	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.98	761.0	30.07	763.8	73	22.8	90	E	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Wickenburg, Arizona	.....	.....	.....	.....	72	22.2	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.92	760.0	29.99	761.7	78	25.6	82	E	8	3.6	.....	8k	0	E	.....	0.03	0.8	Fair	
Winnemucca, Nevada	25.49	647.4	29.85	758.2	58	14.4	32	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.99	761.7	30.04	763.0	69	20.6	90	SW	8	3.6	.....	.....	10s;fg	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.90	734.0	30.17	766.3	61	16.1	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.58	751.3	29.73	755.1	80	26.7	61	S	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
York Factory, B. A	29.78	756.4	29.83	757.7	65.0	18.3	71	E	9	4.0	.....	0	0	.....	.....	0	0	Cloudy	Chas. Hasselbrink.
Havana, Cuba, W. I	29.80	756.4	29.88	758.9	82	27.8	74	Calm	0	0	.....	10c	2ks	N	NW	0	0	.....	James Gall.
Kingston, Jamaica, W. I	30.08	764.0	30.09	764.3	79	26.1	90	Calm	0	0	.....	8c	2s	Calm	Calm	0	0	.....	F. M. Everett.
Navassa, W. I	29.86	758.4	29.96	760.5	82	27.8	.....	E	6	2.7	.....	.....	.....	.....	.....	.....	.....	Light rain	C. J. Hering.
Paramaribo, D. Guiana, S. A	29.96	761.0	29.96	761.0	81	27.2	87	E	.....	.....	2	4c	5k	E	.....	0	0	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herras.
Medellin, Colombia, S. A	25.22	640.6	.....	.....	65.5	18.6	82	Calm	0	0	.....	.....	8ks	.....	.....	0.07	1.8	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,500 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,529.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.90 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.83	757.7	58	14.4	55	12.8	93	SW	19	8.5	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	30.05	763.3	80	26.7	80	26.7	87	NE	2	0.9	.....	.....	8	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.08	764.0	87	30.6	80	26.7	70	SW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.89*	759.2*	73.5	23.1	71.8	22.1	90	SW	.....	.....	4	.....	8ks;sm.	.....	SW	0.10	2.5	.....	E	Cloudy	
Alliance, N. 38° 11′, W. 9° 11′	30.21‡	767.3‡	.....	.....	65	18.3	??	NW	.....	.....	3-4	.....	1	.....	N	.....	.....	Light	N;W	Hazy.....	
Ashuelot, Nagasaki, Japan	29.89	759.2	81	27.2	79	26.1	95	S	.....	.....	4	.....	8	.....	S	.....	.....	.....	.....	Hazy	
Alaska, N. 20° 21′, W. 41° 18′	30.28	769.1	81	27.2	79	26.1	82	E	.....	.....	5	.....	8?	.....	E	.....	.....	Mod'ate	E	Clear?.....	
Canonicus, New Orleans, La.	29.93	760.2	87	13.9	79	26.1	91	S	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.	30.06‡	763.5‡	.....	.....	76	24.4	77	SSW	1	0.4	.....	.....	5	.....	S	0	0	.....	.....	Foggy	
Constellation, N. 32° 24′, W. 69° 30′	30.20‡	767.1‡	.....	.....	78	25.6	82	E	.....	.....	2	.....	5	.....	E	.....	.....	Smooth	.....	Fair	
Constitution, Havre, France	29.80‡	756.9‡	.....	.....	63	17.2	83	WNW	.....	.....	3	.....	7	.....	NW	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	29.87‡	758.7‡	.....	.....	75	23.9	90	NW	.....	.....	1	.....	2	.....	SW	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 18′ 44″, W. 60° 40′ 34″	29.91‡	759.7‡	.....	.....	79	26.1	100	Calm	.....	.....	0	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	30.19	766.8	79	26.1	78	25.6	82	SSE	3	1.3	.....	.....	8	.....	SSE	0	0	.....	.....	Clear?.....	
Gettysburg Alexandria, Egypt	29.81‡	757.2‡	.....	.....	80	26.7	96	WNW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear.....	
Guard, Rio de Janeiro, Brazil	30.10	764.5	74	23.3	74	23.3	76	N	.....	.....	2	.....	2	.....	N	0	0	.....	.....	Fair...	
Hartford, Rio de Janeiro, Brazil	30.09	764.3	.....	.....	76	24.4	95	N	4.8	2.1	.....	.....	5	.....	N	0	0	.....	.....	Fair.....	
Marion, Off Antibes, Italy	29.86	758.4	76	24.4	76	24.4	82	SW	.....	.....	2	.....	2	.....	SW	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.	29.46	748.3	76	24.4	75	23.9	81	S	.....	.....	3	.....	5	.....	SW	.....	.....	.....	.....	Fair...	
Monocacy, Yokohama, Japan	29.90‡	759.4‡	.....	.....	73	22.8	90	S	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.26†	768.6†	.....	.....	84	28.9	79	NE	18	8.0	.....	.....	5	.....	NE	0	0	.....	.....	Fair	
Onward, Callao, Peru	30.11†	764.8†	.....	.....	64	17.8	78	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Che-foo, China	29.66	753.4	74	23.3	71	21.7	95	WNW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.91	759.7	65	18.3	59	15.0	94	SW	11	4.9	.....	.....	7	.....	SW	.....	.....	.....	.....	Cloudy.	
Plymouth. New York, N. Y.	29.99‡	761.7‡	.....	.....	76	24.4	95	S	.....	.....	0-1	.....	.....	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Hong-Kong, China	29.93*	760.2*	.....	.....	86	30.0	83	S	.....	.....	1-2	.....	2	.....	Calm	.....	.....	.....	.....	D.clouds.....	
Rio Bravo, Brownsville, Texas	29.94	760.5	80	26.7	79	26.1	95	Calm	.....	.....	0	.....	6	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.05‡	763.3‡	.....	.....	77	25.0	86	SE	.....	.....	2	.....	5	.....	SE	0	0	.....	.....	Fair	
St. Louis, League Island, Pa.	30.00	762.0	73	22.8	71	21.7	90	SW	2	0.9	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Supply, Havre, France	29.83	759.2	66	18.9	65	18.3	94	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Swatara, Boston, Mass.	29.99‡	761.7‡	.....	.....	76	24.4	91	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Leghorn, Italy	29.89‡	759.2‡	.....	.....	78	25.6	78	W	.....	.....	1	.....	2	.....	N;W	0	0	.....	.....	Clear..... ...	
Tuscarora, N. 17° 40′, W. 101° 35′	29.72	754.9	80	26.7	80	26.7	87	NNW	.....	.....	0-1	.....	2	.....	Calm	0.025	0.64	Smooth	.....	Clear.....	
Vandalia, Smyrna, Turkey	29.82‡	757.4‡	.....	.....	84	28.9	57	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	29.98‡	761.6‡	.....	.....	82	27.8	71	W	1	0.4	.....	.....	2	.....	W	0	0	.....	.....	Fair	
Wyoming, N. 49° 42′, W. 15° 00′	29.80	756.9	68	20.0	64	17.8	73	NE	.....	.....	1	.....	2	.....	Calm	.....	.....	Long	NE	D. clouds.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Hourly rate in knots.	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Sea-swell.		Weather.	Observer.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.	Character.	Direction from—		
			Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—				
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Yokohama, Japan		29.97*	761.2*	75	23.9	95	S			2		6		SSE	3 hours	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 46°, W. 124° 30'		29.95*	760.7*				WNW			3		6		W		Smooth	WNW	Showery	Capt. Seabury.
S. S. City of Peking, N. 48° 09', W. 157° 57'		30.48†	774.2†	52	11.1	?	S	45	20.1			10		S		Small	S	Foggy	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 13° 29', W. 89° 14'		29.88†	758.9†	77	25.0	100	N			2		7		N	Blank	Heavy ground	SSW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature an elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 44° 8', W. 56° 36'		29.90*	759.4*	68	14.4	?	Calm			0				WNW	0	None		D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, Hong-Kong, China		29.87*	758.7*	90	32.2	84	SW			4		c;n		SW	Blank			Squally	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andrressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		CHARACTER	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.11*	764.8*	57	13.9	94	SE			6		9		SE	Light			Cloudy	Captain Sargent.
S. S. Ohio. Philadelphia, Pa		30.06	763.5	90	32.2	89	SSE			1		8		S	0			Clear	Captain Morrison.
S. S. Pennsylvania, N. 43° (67?), W. 42° 31'		29.79†	756.7†	63	17.2	100	NW			4		9		NW	0.125	Mod.	NW	Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

S. S. Nederland																			Capt. Rendle.
S. S. Switzerland, N. 48° 57', W. 15° 33'		30.12*	765.0*				NW	5	2.2			2		NE		Slight	E	Clear	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 66° 13', W. 67° 19'		30.18*	766.6*	38.2	3.4	85	SE			8		10s		SE	0.02 in			Fair	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 3, 1878.

7:35 A. M. WASHINGTON mean time.

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

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:20 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.04	763.1	68.5	20.3	80	NE	.....	.....	6	.....	1	.....	.....	0	0	Very fair	Dr. Ollive.
Nemours	.....	.....	30.08	763.9	84.6	29.2	57	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Michel.
Algiers	.....	.....	30.00	761.9	80.6	27.0	66	NNW	.....	.....	6	.....	4	.....	.....	0	0	Cloudy	Tourillere.
La Calle	.....	.....	30.02	762.4	81.9	27.7	67	N	.....	.....	5	.....	5	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.99	761.7	91.2	32.9	35	NNW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.04	763.0	87.8	31.0	.....	ENE	.....	.....	4	.....	1	.....	.....	0	0	Very fair	Gau.
Saida	.....	.....	30.13	765.3	85.3	29.6	18	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.08	764.1	.....	.....	.....	W	.....	.....	1	.....	7	.....	.....	0	0	Very cloudy	Watrin.
Gerlville	.....	.....	30.11	764.9	84.4	29.1	24	N	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair	Brugniaux.
Laghouat	.....	.....	30.05	763.3	94.0	34.8	18	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.02	762.6	101.8	38.8	.....	NW	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.0? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Gerlville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.05	737.8	29.58	751.4	62.1	16.7	92	SW	.....	.....	3	.....	10	.....	.....	1.587	40.3	Thunder-storm	Prof. Ivan Stossi.
Cracow, I. R. Observatory	28.86	733.0	29.59	751.6	71.2	21.8	68	W	.....	.....	1	.....	10	.....	.....	0.331	8.4	.....	Dr. Wierzbicki.
Eperies	28.74	729.9	29.57	751.1	72.7	22.6	66	S	.....	.....	1	.....	10k	.....	N	0	0	.....	Julius Mikolik.
Gratz	28.41	721.7	29.63	752.6	61.6	16.4	96	WSW	.....	.....	2	.....	10	.....	.....	0.583	14.80	.....	Andreas Rospini.
Hermannstadt	28.24	717.4	29.58	751.3	77.4	25.2	62	SW	.....	.....	3	.....	5	.....	.....	0.213	5.40	Showery,,,	Prof. Reissenberg
Kremsmünster	28.35	720.0	29.65	753.2	59.4	15.2	81	WSW	.....	.....	3	.....	10	.....	.....	0.787	20.0	.....	Prof. C. Wagner
Lemberg	28.59	726.2	29.52	749.9	73.8	23.2	62	W	.....	.....	1	.....	5	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.47	748.5	29.58	751.2	77.4	25.2	58	NW	.....	.....	1	.....	3ks	.....	.....	0.244	6.2	.....	I.R.Hydrographic Office
Szathmar	29.21	741.8	29.65	753.0	75.9	24.4	60	SE	.....	.....	3	.....	8	.....	.....	0.567	14.4	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.50	749.4	29.61	752.0	75.0	24.2	57	W	.....	.....	1	.....	9	.....	.....	1.287	32.7	Thunder-storm	P. Busin.
Vienna	28.95	735.4	29.65	753.2	59.4	15.2	96	NE	.....	.....	1	.....	10	.....	.....	0.181	4.6	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.40	721.4	29.90	759.4	54.7	12.6	68	NW	.....	.....	1	.....	10	.....	.....	0.024	0.6	.....	Prof. M. Passau.
Brussels	29.68	753.9	29.88	759.0	55.6	13.1	73	W	.....	.....	4	4	6	NW	NW	0.093	2.35	.....	Royal Observatory
Furnes	29.94	760.4	29.96	761.0	57.7	14.3	65	NW	.....	.....	4	.....	7	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.73	755.2	29.86	758.4	60.6	15.9	72	W	.....	.....	2	.....	10	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.90	759.4	30.00	762.0	54.1	12.3	.....	N	14	6.3	.....	.....	7	.....	.....	0	0	D. clouds.....	W. Boswell.
Ardrossan	29.97	761.2	29.99	761.7	64	17.8	.....	WNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	30.08	764.0	63.0	17.2	.....	N	6	2.7	.....	.....	7	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.99	761.7	59.1	15.1	.....	WNW	13	5.8	.....	.....	6	.....	.....	.....	.....	D. cloud·.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.11	764.8	63.8	17.7	.....	NNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.58	751.3	29.98	761.5	59.1	15.4	.....	NE	.....	.....	2	.....	10	.....	.....	0.05	1.3	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	83.5	28.6	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.95	760.7	59.0	15.0	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [H. C.
Cardington	.....	.....	29.96	761.0	58.6	14.8	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	57.7	14.3	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling...	Lt. W. G. Morris, R. E.
Dartmoor	28.58	725.9	30.04	763.0	57.0	13.9	.....	N	.....	.....	3	.....	4	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.00	762.0	30.02	762.5	64	17.8	.....	NNW	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky.....	J. Mac Gowan.
Dover	29.92	760 0	29.95	760.7	61	16.1	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	¾ clouded..	J. Costello.
Eccles, (near Manchester)	.....	.....	29.95	760.7	65 0	18.3	.....	NW	3.9	1.7	.....	.....	5	.....	.....	.....	.....	D. clouds...	Thomas Mackereth.
Falmouth, Observatory	29.84	757.9	30.07	763.8	61.8	16.6	.....	NNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.75	704 8	30.04	763.0	65.3	18.5	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.73	755.1	29.96	761.0	80	26.7	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds....	.....
Galway, Queen's College	.....	.....	30.07	763.8	65	18.3	.....	NNW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.98	761.5	30.03	762.7	77.0	25.0	.....	W	.....	.....	6	.....	0?	.....	.....	.....	.....	Overcast ?..	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.79	756.7	30.00	762.0	63.0	17.2	.....	NNW	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.91	759.7	29.92	760.0	57	13.9	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.78	756.4	29.96	761.0	55.9	13.3	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	The Staff, for G. B. Airy.
Guernsey	29.81	757.2	30.03	762.7	59.6	15.3	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.06	763.5	66	18.9	.....	NW	.....	.....	4	.....	3c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.00	762.0	30.05	763.3	59	15.0	.....	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky....	John Tilston.
Jersey	29.78	756.4	30.07	763.8	58.1	14.6	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	J. Fisher.
Kew, Observatory	.....	.....	29.96	761.0	57.0	13.9	.....	NNE	3	1.3	.....	.....	10	.....	.....	.....	.....	Raining.....	The Staff.
Kingstown	30.05	763.3	30.08	764.0	61	16.1	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds ...	George Mitchell.
Leicester, Museum	.....	.....	29.95	760.7	60.3	15.7	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.78	756.4	29.86	758.4	81.0	27.2	.....	NW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	Sgt. Hewitt, A. H. C.
Nairn	29.92	760 0	30.01	762.2	57	13.9	.....	NW	.....	.....	1	.....	2	.....	.....	.....	.....	¾ clouded..	W. L. Penny.
Nassau, (Bahamas)	.....	.....	29.85	758.2	80.8	27.1	.....	SW	.....	.....	2	.....	10	.....	.....	Blank	Blank	Overcast....	C. S. Duncombe.
Nottingham, Observatory	29.81	757.2	30.00	762.0	62.2	16 8	.....	NW	.....	.....	3	.....	5k	.....	NW	0.105	2.67	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29 45	748.0	29.96	761.0	57.7	14.3	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.97	761 2	63	17.2	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	H. E. Bellamy.
Plymouth	29.96	761.0	30.03	762.7	63.7	17.6	.....	N	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Roche's Point	30.07	763.8	30.12	765.0	65	18.3	.....	NNW	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	29.90	759.4	30.07	763.8	59	15.0	.....	NW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.02	762.5	54.3	12.4	.....	NW	13	5.8	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.77	756.1	84.2	29.0	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.71	754.6	29.93	761.5	59.7	15.4	.....	NE	.....	.....	2	.....	6	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	29.95	760.7	29.98	761.5	63.1	17.3	65	E	.....	.....	1	.....	3	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.59	751.6	29.99	761.7	61.9	16.6	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Stornoway, Lewis C., (Hebr.)	29.98	761.5	30.01	762.2	57	13.9	.....	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Strathfeld Turgiss	29.75	755.6	29.96	761.0	61.6	16.4	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Showery....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	30.01	762.2	58	14.4	.....	NNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	30.09	764.3	67	19.4	.....	N	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.16	766.1	61.9	16.6	.....	NW	7	3.1	.....	.....	3	.....	.....	.....	.....	Hazy.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	30.04	763.0	54.0	12.2	87	S	.....	.....	5	.....	7k	.....	.....	0.37	9.4	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.84	757.9	30.03	762.6	73.0	22 8	67	W	10	4.5	.....	2	3	.....	WSW	0	0	Fine; cloudy	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	48.3	9.1	77	SSE	1	0.4	.....	.....	10	.....	.....	0.02	0.5	Dull.....	R. L. J. Ellery.
Monach Li-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—	Weather.	Observer.
S. S. Algeria, N. 49° 30' W. 27° 10'	5*	S	Raining.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine	.....	.....	.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 60° 50', W. 48° 50'	.....	.....	Foggy.....	Capt. Alex Simpson.
Barque Virginia, N. 48° 30', W. 63° 25'	2	ESE	Foggy.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7			68.4	20.2	95	SE			1	8ck				0	0		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.52	749.7	29.56	750.9	60.4	15.8	42	SW			2		9					
Faröe	29.56	750.8	29.58	751.3	61.2	16.2	83	NW.			6		7					
Godthaab, (Greenland)	29.93	760.2	29.97	761.3	46.4	8.0	85	SW			2		2					
Stykkisholm, (Iceland)	29.91	759.7	29.95	760.8	48.9	9.4	86	NW			2		8					
Thorshavn, (Faröe)	29.92	760.0	29.96	760.9	62.7	11.5	69	NW			4		4					
Vestervig	29.44	747.7	29.61	752.0	55.0	12.8	100	N			6		10					Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29 52	749.8	30.07	763.8	68.0	20	78	W			2		5		W	0.488	12.4	Cloudy	Collignon, Director.
Amiens, Normal School	29.86	758.4	29.97	761.1	61.2	16.2	59	N			2		5		NW	0.157	4.0	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.80	757.0	29.88	759.0	75.9	24.4	42	N			3		5		NW	0	0	Cloudy	Mr. Giraud, Director.
Bar-sur-Seine	29.39	746.4	29.94	760.5	61.7	16.5	47	NNE			2		8km		N	0.409	10.4	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.71	754.7	30.00	761.9	58.5	14.7	61	N			2		10		NW	0.305	7.75	Covered	Normal School.
Besançon	29.03	737.3	29.90	759.5	60.4	15.8	85	S			2		10		SW	0.24	6.	Covered	Normal School.
Bourg-en-Bresse	29.08	738.5	30.00	761.9	59.5	15.3	91	W			6		5		W	0.20	5.	Raining	Normal School.
Bourges, Normal School	29.34	745.3	29.98	761.4	62.2	16.8	69	NNW			2		1cn		NNW	1.228	31.2		A. Wagner, Director.
Brest, Naval Observatory	29.82	757.4	30.06	763.5	67.6	19.8	70	WNW			3		9		WNW	0.236	6.00	Hazy	The Staff.
Carcassonne, Normal School	29.62	752.4	30.03	762.7	69.1	20.6	55	W			2		5		W	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.37	745.9	29.93	760.2	58.3	14.6	93	NW			4		0			0	0	Clear.	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.00	751.9	29.91	759.8	63.0	17.2	56	NW			6		5k			0.004	0.1	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs.	28.63	727.2	29.95	760.7	65.8	18.8	64	NW			3		8		NW	0.079	2.0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.04	737.5	29.91	759.7	58.3	14.6	72	NW			6		5		SE	0.004	0.1	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.74	730.0	29.88	759.0	70.5	21.4	34	NW			8		5		NW	0	0	½ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.88	758.9	30.09	764.2	69.1	20.6	73	WNW			4		8		NW	0.157	4.0	Very cloudy	Moulliot, Director.
Le Mans, Normal School	29.72	755.0	30.03	762.7	61.2	16.2	98	NW			2		8		NW	0.35	9.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.01	736.8	29.91	759.8	61.7	16.5	69	NE			3		8		SE	0.484	12.30	Raining	Baudry, Director.
Lorient, Naval Observatory	30.02	762.6	30.12	765.1	67.6	19.8	60	NW			3		10		NW	0.008	0.2	Covered	T. Carré, Director.
Mâcon, Normal School	29.21	742.0	29.89	759.2	61.3	16.3	83	WNW			4		10		W	0.406	10.3	Covered	M. Galzin, Director.
Mirecourt	28.85	732.7	29.88	758.9	63.1	17.3	60	NNW			4		10		SE	0	0	Covered	Normal School
Nismes, Normal School	29.68	753.8	29.87	758.8	73.4	23	35	NW			4		2		N	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.56	750.9	29.94	760.4	67.1	19.5	76				2		10			0.12	3.	Covered	Bernard, Director.
Paris, Observatory	29.73	755.2	29.97	761.2	59.5	15.3	58	W			2		10		WNW	0.117	2.97		National Observatory.
Privas	28.87	733.3	29.89	759.2	73.4	23	40	N			4		2		N	0	0	Slightly cl'dy	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.06	763.4	30.09	764.2	72.7	22.6	45	W			3		10		W	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.89	759.1	29.97	761.3	60.3	15.7	67	NNW			1		10		NNW	0.059	1.5	Covered	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.09	738.8	30.13	765.3	75.2	24	67	S			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.24	742.7	29.93	760.3	67.6	19.8	73	N			3		5		N	0.051	1.3	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique																			L'Abbé Marchés.
Lyons			29.77	756.2	68.4	20.2	65						7			0.094	2.4		L. Jays.
Marseilles, Observatory			29.80	756.8	73.4	23.0	33	NW			6-8		7			0	0	Partly cl'dy	The Staff.
Mont-Louis	24.90	632.5	30.22	767.5	57.2	14 0	41	WSW	9.3	4.17			4		SW	0	0		M. Cave.
Nice			29.61	752.1	79.7	26.5	48	W			10		1			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.69	754.0	29.96	761.0	61.2	16.2	55	NW			2		10			0.075	1.9		Marié Davy, Director
Perpignan			29.97	761.2	73.4	23.0	48	N	33.6	15.00			5		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.02	574.6			35.2	1.8		NW			3		10			1.811	33.3	Stormy	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.80	757.0	29.97	761.2	60.8	15.7	92	NNW			1		10	NW	NW	0	0	Covered	E. Renou.
Toulouse, Observatory	29.38	746.3	30.11	764.7	66.9	19.4	61	WNW			6		8			0.093	2.35		The Staff.
Tours	29.82	757.4	30.02	762.4	66.2	19.0	60	WNW			3		10		W	0.087	2.2		C. Marquet.
Versailles, (near Paris)			29.98	761.4	62.2	16.8	53	N			1		10			0.096	2.44	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.61	752.1	29.63	752.7	77.5	25.3	99		2.7	1.2			10n			0.803	20.4	Raining	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.86	733.0	29.69	754.2	67.1	19.5	70	NW			4		9			0.51	13.	Raining	Prof. Dr. Hoh.
Berlin	29.52	749.8	29.69	754.0	67.6	19.8	43	W			1		7			0	0		Prof. Arndt.
Breslau	29.17	740.8	29.69	754.1	66.0	18.9	62	NNW			2		10					Sprinkling	Royal University Obs'y
Carlsruhe	29.37	746.0	29.79	756.7	59.0	15.0	83	NW			2		10			0.685	17.4	Raining	Albert Senz.
Cassel	29.14	740.1	29.71	754.5	63.7	17.6	49	NW			5		8	W		0	0		Dr. H. Möhl.
Crefeld	29.64	752.8	29.80	756.9	62.2	16.8	58	W			5		9n			0	0		Director Lose.
Emden	29.70	754.3	29.74	755.3	59.0	15.0	61	W			5		2			0.185	4.7		Prof. Prestel.
Frankfort on the Main	29.47	748.6	29.83	757.6	65.1	18.4		N			1		8			0.602	15.3		Physical Society.
Friedrichshafen	28.38	720.9	29.79	756.7	59.0	15.0	84	WNW			5		10	W		0.118	3.0	Showery	M. Wilhelm.
Hamburg	29.62	752.4	29.69	754.2	59.4	15.2	68	NW			5		10			0.106	2.7	Squally	Captain F. Hegemann.
Kiel	29.63	752.5	29.64	752.9	62.2	16.8	43	W			5		8			0.036	0.91		Prof. G. Karsten.
Königsberg, (Prussia)	29.56	750.7	29.63	752.7	61.7	16.5	82	SW			2		6			0.020	0.5		Prof. E Luther.
Köslin			29.65	753.2	59.9	15.5		NE			2		4			0	0		H. Müller.
Leipsic, Observatory	29.32	744.6	29.72	755.0	63.7	17.6	55	NNW			3		9	WNW		0.071	1.8		Prof. Bruhns.
Memel, Naval School	29.60	751.9	29.65	753.1	66.7	19.3	64	SW			2		bck;ks	SW					Reinbrecht and Skalweit.
Neufahrwasser	29.62	752.4	29.64	752.8	61.5	16.4	75	NNE			4		7	W		0.012	0.3		A. Lothes.
Posen	29.45	748.1	29.73	755.2	66.2	19.0	55	NW			3		8			0	0		Dr. Magener.
Strassburg (in Alsace)	29.29	744.0	29.84	757.8	58.1	14.5	85	Calm			0		10	W		0.189	4.79	Raining	Astronomical Observatory.
Stuttgart	28.81	731.8	29.73	755.2	59.0	15.0	89	NW			1		10			0.429	10.9	Raining	Prof. Schoder.
Treves, (Trier)	29.22	742.2	29.74	755.3	60.6	15.9	61	W			2		10			0.016	0.41	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.22	716.9	29.65	753.2	60.1	15.6	80	NNW	0	0			10		NW	0.122	3.1	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.63	752.7	29.67	753.7	61.2	16.2	57	WSW			4		7			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.45	748.0	29.82	757.4	90.6	32.2		S			3.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.48	748.8	29.53	750.0	90.1	32.3	67	WSW	41?	18.3?			9		WSW	0	0	D clouds	
Deesa	29.06	738.1	29.52	749.7	94.8	34.9	51	SSE					2			0	0	Misty	
Bombay	29.61	752.1	29.65	753.6	77.6	25.3	98	NNW	9	4.0			10		SW	4.28	108.7	Raining	
Poona	27.64	702.1	29.63	752.6	77.9	25.5	75	W					10		WNW	0	0	D. clouds	
Lahore	28.55	725.2	29.23	742.5	114.1	45.0	20	Calm	2.1	0.9			0			0	0		
Belgaum	27.19	690.6	29.73	755.1	72.9	22.7	93	W	6	2.7			10		W	0.25	6.3	Showery	
Bangalore																			
Roorkee	28.48	723.3	29.34	745.1	94.8	35.6	51	SE	5.7	2.6			4			0	0		
Agra	28.82	732.0	29.36	745.6	98.6	37.0	39	E	10	4.5					E	0	0		
Trichinopoly																			
Nagpur	28.46	722.9	29.50	749.2	76.9	24.9	89	SW	4.8	2.2			10		NE	1.31	33.3	Raining	
Madras																			
Lucknow	29.04	737.7	29.60?	751.8?	95.1	35.1	62	Calm	2.6	1.2			5		ESE	0	0	D. clouds	
Allahabad	29.07	738.4	29.36	745.9	98.7	37.1	54	ENE	2.4	1.1			9	E		0	0	D. clouds	
Patna	29.28	743.8	29.46	748.3	82.1	27.8	80	E	1.3	0.6			10	E	E	0	0	Lightning	
Hazaribagh	27.52	699.1	29.52	749.7	78.0	25.6	86	WNW	6.6	3.0			10			0.02	0.5	Thunder-storm	
Cuttack	29.44	747.8	29.52	749.9	82.0	27.8	79	NNE	3.3	1.5			8			0.83	21.1	Thunder	
Calcutta (Alipore)	29.51	749.6	29.53	750.1	86.2	30.1	78	S	11	4.9			7	S		0	0	D. clouds	
Goalpara	29.18	741.2	29.57	751.0	79.6	26.4	91	NW	1.8	0.8			7			0.33	8.4	D. clouds	
Chittagong	29.53	750.0	29.62	752.3	84.4	29.1	83	S	3.1	1.4			9			0	0	Misty	
Sibsagar	29.25	743.0	29.58	751.4	85.2	29.6	79	Calm	3.7	1.6			8	SW	SW	2.32	58.9	D. clouds	
Rangoon																			
Jubbulpore	28.18	715.7	29.53	750.0	80.6	27.0	81	SSW	7.7	3.4			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal, and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.22	742.1	29.61	752.2	68.4	20.2	66	N	1.8	0.6	.....	.....	10	.....	.....	0.846	21.5	.....	Prof. Giovanni Clodig.
Padua	29.49	749.1	29.60	751.8	70.3	21.3	66	SW	1.8	0.6	.....	.....	10	.....	.....	0.768	19.5	.....	Prof. Dott. Lorenzoni
Vicenza	29.42	747.2	29.60	751.9	71.2	21.8	66	SW	1.8	0.8	.....	.....	7	S	.....	1.252	31.8	.....	Conte Alm. Da Schio.
Bergamo	28.32	719.4	29.59	751.5	66.6	19.2	46	NW	.....	.....	6	.....	9	.....	.....	0.307	7.8	.....	Prof. Trionfini Carlo.
Milan	29.11	739.5	29.61	752.0	73.0	22.8	.....	NE	.....	.....	1	.....	8	.....	.....	0.417	10.6	.....	Prof. Schiaparelli.
Moncalieri	28.74	730.1	29.61	752.2	75.2	24.0	43	WNW	3.1	1.4	.....	.....	3	SE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.78	705.5	29.61	752.2	68.5	20.3	58	NW	.....	.....	2	.....	1	W	.....	0.626	15.9	.....	Prof. D. C. Bruno.
Porto Maurizio	29.43	747.4	29.64	752.9	68.9	20.0	56	WNW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.45	748.0	29.61	752.2	73.6	23.1	67	NE	3.8	1.7	.....	.....	6	NW	.....	0.748	19.0	.....	Prof. G. M. Garibaldi.
Parma	29.39	746.4	29.60	754.2	69.0	17.2	86	SW	.....	.....	4	.....	10	.....	.....	0.614	15.6	.....	Prof. P. Pigorini.
Florence	29.45	747.9	29.69	754.2	75.7	24.3	40	SW	.....	.....	6	.....	8	.....	.....	0	0	.....	Cav. F Meucci.
Leghorn	29.59	751.5	29.67	753.6	73.6	23.1	54	W	18.6	8.3	.....	.....	4	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.55	750.6	29.60	751.7	75.0	24.2	69	N	.....	.....	.....	.....	10	.....	.....	0.122	3.1	.....	Prof. Luigi Guidi.
Urbino	28.12	714.3	29.63	752.5	74.5	23.6	35	SW	.....	.....	2	.....	10	.....	.....	0.079	2.0	.....	Prof. P. Serpieri.
Grosseto	29.58	751.2	29.68	753.9	82.8	28.2	54	SSW	.....	.....	4	.....	4	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.55	750.6	29.72	754.9	81.3	27.4	56	W	16.8	7.5	.....	.....	9	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.57	751.0	29.76	756.0.	83.8	28.8	51	SW	.....	.....	6	.....	6	SW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.51	749.5	29.75	755.7	86.2	30.1	49	SSW	15.4	6.9	.....	.....	2	S	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.61	752.2	29.80	756.9	81.0	27.2	40	NW	.....	.....	6	.....	3	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.91	734.4	29.76	755.9	90.0	32.2	58	NE	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.55	751.5	29.84	757.8	84.0	28.9	41	N	18.6	8.3	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.63	752.5	29.70	754.4	81.1	27.3	67	NNE	.....	.....	4	.....	9	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.26	743.1	29.81	757.2	77.7	25.4	49	ESE	8.1	3.6	.....	.....	3	S	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.53	750.6	29.74	755.4	78.8	26.0	83	SSW	12.5	5.6	.....	.....	10ks;8s	.....	SW	0.005	0.13	Cloudy	.....
Tokei (Yeddo)	29.71	754.6	29.78	756.4	74.8	23.8	90	S	12.1	5.4	.....	.....	10n	.....	.....	0.385	9.78	Light rain..	The Observatory.
Tokei (Yeddo) University	29.67	753.6	29.76	755.9	74.5	23.6	93	S	15	6.7	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain...	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	25.01	635.1	29.96	761.0	66.8	13.8	84	SW	0.9	0.4	.....	0	3	.....	SE	0.82	20.8	Clear	Prof. L. Perez.
Guanajuato	23.64	600.7	29.77	756.3	66.7	19.3	70	Calm	0	0	.....	0	6	.....	.....	0	0	½ cloudy	Prof. V. Fernandez
Leon	.....	.....	.....	.....	66.2	19.0	70	W	0.9	0.4	.....	5c	0	.....	.....	0	0	Fair	Prof. M. Leal.
Mexico	23.07	586.0	30.04	762.9	58.1	14.5	76	Calm	0	0	.....	1c	2k	W	.....	0.12	3.0	.....	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.4	18.0	82	Calm	0	0	.....	0	7ks	.....	SE	0	0	Cloudy	M. V. de Leon, M. E.
Puebla	23.30	591.9	29.97	761.3	62.9	11.6	82	N	4.7	2.1	.....	0	3cs	.....	.....	0.06	1.5	Clear	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.91	759.7	29.93	760.0	76.1	24.5	96	SW	0.9	0.4	.....	0	10n	.....	NE	0.94	23.8	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.17	613.1	30.06	763.4	68.0	20.0	77	E	0.9	0.4	.....	4cs	4n	S	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.89	759.2	29.92	759.9	79.7	26.5	80	NW	.....	.....	.....	2c	2sk	.....	.....	0	0	½ cloudy	Prof. J. Rosselli.
Zacatecas	.....	.....	.....	.....	60.8	16.0	88	E	5.1	2.3	.....	0	4	S	E	0.57	14.5	Covered	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.23	590.1	29.96	761.1	61.4	10.8	96	NE	8.4	1.5	.....	1	0	.....	.....	0.12	3.0	Clear	Prof. P. Spina. (M.M. D. D
Morelia	24.09	612.0	.....	.....	66.2	19.0	67	NE	0.9	0.4	.....	2c	0	NE	.....	0.38	9.5	Clear	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.29	718.6	29.92	759.9	78.4	25.8	80	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The elevation of Aguascalientes, is 1,831 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.91	759.7	29.91	759.7	59.4	15.2	.....	NW	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Groningen	29.72	755.0	29.78	756.4	57.2	14.0	.....	NW	.....	.....	4	.....	.....	.....	.....	0.114	2.9	.....	
Helder	29.83	757.6	29.83	757.6	55.6	13.1	.....	NW	.....	.....	4	.....	.....	.....	.....	0.150	3.8	.....	
Hellevoetsluis	29.85	758.1	29.85	758.1	60.3	15.7	63	W	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.80	757.0	29.85	758.2	62.4	16.9	60	NW	.....	.....	4	.....	8	.....	.....	0.016	0.4	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.63	752.6	29.69	754.0	60.1	15.6	49	NNW	15.9	7.1	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.64	752.9	29.68	753.9	51.8	11.0	75	N	18	8	.....	.....	7	.....	.....	0.204	0.6	.....	
Christiania	29.48	748.7	29.62	752.3	62.1	16.7	48	NNE	7	3	.....	.....	5	.....	.....	0.012	0.3	.....	
Tromsö	29.66	753.3	29.70	754.4	49.3	9.6	52	NE	9	4	.....	.....	2	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.00	762.0	30.19	766.8	69.8	21.0	92	W	4.3	1.9	.....	.....	10	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.3	30.13	765.3	80.1	26.7	22	NW	11.7	5.3	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.18	766.6	30.27	768.8	73.9	23.3	59	SW	8.0	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.84	757.8	30.19	766.7	76.1	24.5	46	NNE	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.19	766.8	30.26	768.6	74.5	23.6	80	SW	15.0	6.7	.....	.....	4	.....	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 1° 23′, E. 6° 15′	.....	.....	30.03	762.8	78.4	25.8	.....	Calm	.....	.....	0	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.20	767.0	70.7	21.5	.....	ESE	.....	.....	2	.....	0	.....	.....	2	SE	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.98	761.4	81.5	27.5	.....	NE	.....	.....	4	.....	9	.....	NE	2	SE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.99	761.8	.....	.....	.....	NNW	.....	.....	2	.....	2	.....	.....	1	.....	Blue sky	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.23	742.4	29.63	752.7	68.9	20.5	63	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.26	743.3	29.67	753.6	63.9	17.7	56	S	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.37	746.0	29.60	751.9	66.6	19.2	61	WSW	11	5	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.54	750 3	29.56	750.7	58.1	14.5	79	NW	7	3	.....	.....	8n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.06	738.0	29.65	753.2	78.3	25.7	55	SE	9	4	.....	.....	10k;c	.....	.....	.....	.....	Solar corona	Physical Cabinet.
Nikolaiev	29.70	754.4	29.77	756.2	91.0	32.8	37	S	13	6	.....	.....	3ck	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.85	758.3	29.87	758.8	73.0	22.8	93	SSE	9	4	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.14	740.1	29.66	753.3	72.5	22.5	48	N	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.46	748.2	29.65	753.1	83.8	28.8	35	WNW	13	6	.....	.....	3k	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.27	743.4	29.29	743.9	52.7	11.5	96	NE	13	6	.....	.....	10	.....	.....	.....	.....	Raining	Ogorodnikof
Tiflis	28.43	722.2	29.76	755.9	84.9	29.4	29	N	31	14	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.80	756.9	29.72	754.8	76.6	24.8	58	N	9	4	.....	.....	9s;n	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.29	743.9	29.54	750.3	80.1	26.7	56	SSW	2	1	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.80	731.5	29.68	753.9	83.5	28.6	36	S	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.3	29.64	752.8	91.2	32.9	49	NW	4	2	.....	.....	2ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.08	713.2	29.65	753.0	90.7	32 6	49	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.32	744.8	29.82	757.5	70.0	21.1	41	N	4	2	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.48	748.9	29.76	756.0	60.8	16.0	73	W	4	2	.....	.....	8	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.45	747.9	29.59	751.5	87.1	30.6	50	Calm	0	0	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.86	758.4	29.96	761.0	76.5	24.7	57	SE	1.5	0.67	.....	4c;ck	.....	W	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.16	766.1	30.22	767.5	74.1	23.4	63	NW	4.0	1.79	.....	4	2	W	.....	0.146	3.7	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.28	692.9	.....	.....	64.4	18.0	60	NE	4.5	1.99	.....	.....	8	.....	.....	0.059	1.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.94	709.6	30.07	763.7	80.1	26.7	34	N	6.0	2.67	.....	0	0	.....	.....	Inap.	Inap.	Clear	The Staff.
Murcia, Met. Obs'y	29.91	759.7	30.05	763.3	90.1	32.3	34	NW	5.4	2.42	.....	.....	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.35	745.4	30.23	767.9	67.1	19.5	66	NE	6.0	2.67	.....	.....	5	.....	.....	0.224	5.7	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.82	757.5	29.89	759.1	78.1	25.6	85	SW	2.7	1.2	.....	10pc	4k	.....	.....	0.110	2.8	Cloudy	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.01	762.3	30.11	764.8	75.4	24.1	61	WNW	22.7	10.2	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	760.0	30.01	762.3	82.8	28.2	85	SE	0	0	.....	2km	4k	SE	SE	0.098	2.50	D. clouds	Leonardo de Tejeda, Ch'f Eng'rs.

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

SWEDISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'per 0–10.	Low'r 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.52	749.9	29.56	750.9	51.8	11.0	.....	NE	.....	.....	6	.....	8	.....	.....	0.197	5.0	.....	
Umea	29.56	750.8	29.61	752.1	47.1	8.4	73	N	.....	.....	6	.....	10	.....	.....	0.087	2.2	.....	
Hernosand	29.56	750.8	29.61	752.1	51.1	10.6	68	N	.....	.....	4	.....	10	.....	.....	0.146	3.7	Raining	
Stockholm	29.44	747.8	29.62	752.3	64.0	17.8	46	SSW	.....	.....	2	.....	7	.....	.....	0.012	0.3	.....	
Wisby	29.52	749.7	29.58	751.2	58.3	14.6	72	ESE	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.52	749.8	29.60	751.7	62.1	16.7	50	NE	7.4	3.3	.....	.....	8	W	SW	0.005	0.12	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.49	723.7	29.90	759.5	59.2	15.1	80	SSW	.....	.....	1	.....	10	.....	.....	0.197	5.0	Raining.....	The Observatory.
Zurich	28.21	716.5	29.83	757.7	58.6	14.8	82	W	.....	.....	4	.....	10	.....	.....	0.646	16.4	Raining.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.6 mm.; Thermometer, —7.0 cent.; Relative Humidity, +27 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.82	757.5	86.4	30.2	86	SE	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salonica	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. Stefanides.
Valona	.....	.....	29.84	758.0	88.7	31.5	.....	SW	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Varna	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Imperial Observatory.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.66	753.4	29.77	756.1	84.0	28.9	76	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.97	761.2	30.04	763.0	62.9	17.2	87	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Hon. J. Ferguson.
Brockville, Ontario	29.79	756.7	30.08	764.0	73	22.8	.....	Calm	0	0	.....	2c	2s	Calm	SW	0	0	Fair	W. R. Bigg.
*Chatham, N B	29.98	761.5	30.04	763.0	63	17.2	91	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island.	30.02	762.5	30.06	763.5	66	18.9	79	SE	6	2.7	.....	8cs	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758 2	30.04	763.0	72.0	22.2	88	NW	.....	.....	1	0	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	63	17.2	94	E	.....	.....	1	.....	.....	.....	.....	0	0	.....	H. A. Johnson.
Esquimault, B. C	29.84	757.9	29.88	758.9	49.3	9.6	100	NW	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	W. H. Bevis.
*Father Point, Quebec	30.04	763.0	30.06	763.5	55	12.8	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.06	763.5	36.5	19.2	87	Calm	0	0	.....	.....	10s	.....	.....	0.436	11.05	Smoky.....	Prof. Harrison.
*Fort Garry Manitoba	29.13	739.9	29.93	760 2	65	18.3	92	S	12	5.4	.....	0	Haze	.....	.....	0	0	Clear.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	30.00	762.0	30.06	763.5	66	18.9	100	N	.....	.....	1	.....	10n	.....	.....	0.60	15.2	Overcast....	James Grant.
*Halifax, N. S	29.93	760.2	30.06	763.5	57	13.9	99	S	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.72	754.9	30.07	763.8	70.2	21.2	92	Calm	.....	.....	0	0	3n	.....	.....	0.24	6.1	Raining.....	Geo. Dickson, M. A.
Heart's Content, N. F	30.04	763.0	30.06	763.5	52	11.1	79	NE	.....	.....	1	10	3ks	.....	.....	0	0	Cloudy.....	E. Weedon.
*Kingston, Ontario	29.75	755.6	30.07	763.8	74	23.3	80	NE	9	4.0	.....	8c	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	30.05	763.3	30.09	764.3	61.5	16.4	.....	SW	8	3.6	.....	8c	0	SW	.....	0.27	6.9	Cloudy.....	C. H. Rigby.
*Montreal, Quebec	29.86	758.4	30.05	763.3	76	24.4	73	W	8	3.6	.....	5c	2s	W	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.47	748.5	30.14	765.5	66	18.9	92	N	13	5.8	.....	2cs	2ks	NE	NE	0.02	0.5	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.38	746.2	30.10	764.5	69.7	20.9	85	SE	.....	.....	1	10k	0	.....	.....	0	0	Cloudy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.06	763.5	69	20.6	100	N	4	1.8	.....	.....	10n	.....	.....	0.52	13.2	Heavy rain.	H. Morgan.
Port Hastings, N. S	30.04	763.0	30.09	764.3	53.7	12.1	.....	SE	2	0.9	.....	.....	.....	.....	.....	0	0	Cloudy.....	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.05	763.3	71	21.7	93	SE	2	0.9	.....	.....	10n	.....	SE	0.08	2.0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.77	756.1	30.08	764.0	61	16.1	83	NE	.....	.....	3	.....	10n	.....	NE	0	0	Cloudy.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.73	755.1	30.17	766.3	66	18.9	79	Calm	0	0	.....	8ck	0	W	.....	0.14	3.6	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.00	762.0	30.05	763.3	59	15.0	90	SE	8	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.92	760.0	30.08	764.0	59	15.0	88	S	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.44	747.8	30.13	765.3	65	18.3	88	N	7	3.1	.....	.....	10ks	.....	N	0.32	8.1	Cloudy.....	K. Stewart.
Stayner, Ontario	29.35	745.5	30.10	764.5	65	18.3	94	Calm	0	0	.....	.....	10n	.....	E	0.36	9.1	Light rain...	R. J. Cole.
Stratford, Ontario	28.81	731.8	30.05	763.3	66.7	19.3	97	E	4	1.8	.....	.....	10n	.....	.....	0.267	6.78	Cloudy.....	C. J. MacGregor, M. A
*Sydney, C. B	30.09	764.3	30.12	765.0	58	14.4	86	S	4	1.8	.....	.....	10s	.....	S	0.02	0.5	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.08	764.0	68	20.0	97	N	7	3.1	.....	.....	10n	.....	W	0.34	8.6	Light rain...	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	52.0	11.1	93	NE	.....	.....	5	5n	.....	.....	.....	0.02	0.5	Showery.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'r 0–10	CLOUDS. Amount. Low't 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.82	757.4	30.04	763.0	78	25.6	69	S	3	1.3		0	0			0	0	Clear	
Alpena, Michigan	29.51	749.5	30.14	765.5	64	17.8	78	NE	8	3.6		0	0			0	0	Clear	
Atlantic City, New Jersey	30.10	764.5	30.12	765.0	75	23.9	90	SW	7	3.1		8k	0	SW		0	0	Fair	
Augusta, Georgia	29.81	757.2	29.99	761.7	78	25.6	78	E	13	5.8		0	0			0.37	9.4	Clear	
Baltimore, Maryland	30.05	763.3	30.09	764.3	77	25.0	82	S	4	1.8		8k	0	Calm		0	0	Fair	
Barnegat, New Jersey	30.09	764.3	30.12	765.0	81	27.2	74	SW	9	4.0		0	0			0	0	Clear	
Bismarck, Dakota	27.99	710.9	29.85	758.2	66	18.9	79	SE	16	7.2			10s		SE	0	0	Cloudy	
BoiseCity, Idaho	26.87	682.5	29.75	755 6	56	13.3	62	N	8	3.6			10s		Calm	0	0	Cloudy	
Boston, Massachusetts	29.88	758.9	30.03	762.7	80.5	26.9	62	W	8	3.6		0	Haze		Calm	0	0	Clear	
Brackettville, Texas	28.78	731.0	29.78	756.4	73	22.8	76	NE	4	1.8		8cs	0	N		0	0	Fair	
Breckenridge, Minnesota	29.01	736.8	29.98	761.5	62	16.7	83	S	16	7.2		0	0			0	0	Clear	
Brownsville, Texas	29.79	756.7	29.85	758.2	80	26.7	78	NW	4	1.8		10cs	0	SW		0.12	3.0	Cloudy	
Buffalo, New York	29 36	745.7	30.03	762.7	72	22.2	90	NW	4	1.8			10s		NW	0.20	5.1	Cloudy	
Burkes, Arizona					85	29.4	61	E			1	0	0			0	0	Clear	
Burlington, Vermont	29.81	757.2	30.05	763.3	79	26.1	21	S	2	0.9		1c	0	W		0	0	Clear	
Cairo, Illinois	29.63	752.6	30.01	762.2	69	20.6	90	N	9	4.0			10s		Calm	Inap.	Inap.	Cloudy	
Camp Apache, Arizona					66	18.9	69	Calm			0	0	8ks		S	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	72	22.2	54	E			2	0	0			0	0	Clear	
Camp Verde, Arizona	26.60	675.6	30.09	764.3	84	28.9	34	SE			1	5k	0	Calm		0	0	Fair	
Campo, California	27.32	693.9	29.89	759.2	47	8.3	85	E			1	2c	0	Calm		0	0	Clear	
Cape Hatteras, N. Carolina	30.03	764.3	30.10	764.5	80	26.7	78	SE	15	6.7		2k	0	SE		0.05	1.3	Fair	
Cape Henry, Virginia	30.09	764.3	30.11	764.8	76	24.4	86	SE	5	2.2		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.04	763.0	30.06	763.5	80	26.7	78	SE	20	8.9		2ck	0	E		0	0	Fair	
Cape May, New Jersey	30.10	764.5	30.13	765.3	74	23.3	85	S	10	4.5		5k	0	SW		0	0	Fair	
Charleston, South Carolina	29.91	759.7	29.98	761.5	81	27.2	70	E	23	10.3			10s		E	0.04	1.0	Threatening	
Cheyenne, Wyoming	24.02	610.1	29.96	761.0	57	13.9	75	Calm	0	0		2c	0	SW		0	0	Clear	
Chicago, Illinois	29.39	746.5	30.06	763 5	63	17.2	83	NE	8	3.6			10s		NE	0	0	Cloudy	
Cincinnati Ohio	29.33	745.0	29.95	760.7	73	22.8	85	N	4	1.8			10ks		SE	0.04	1.0	Cloudy	
Cleveland, Ohio	29.32	744.7	30.02	762.5	70	21.1	90	NE	1	0.4			10s		Calm	1.39	35.3	Cloudy	
Columbus, Ohio	29.19	741.4	29.96	761.0	75	23.9	81	Calm			0	10k	0	Calm		0.25	6.3	Cloudy	
Conchо, Texas																			
Corsicana, Texas	29.48	748.8	29.93	760.2	71	21.7	90	N	4	1.8		5k	0	N		0	0	Fair	
Davenport, Iowa	29.49	749.0	30.12	765.0	62	16.7	77	NE	5	2.2			10ks		NE	0	0	Cloudy	
Denison, Texas	29.18	741.2	29.95	760.7	69	20.6	90	N	3	1.3		8k	0	N		0	0	Fair	
Denver, Colorado	24.77	629.2	29.99	761.7	66	18.9	50	S	2	0.9		5c	0	Calm		0.05	1.3	Fair	
Detroit, Michigan	29.41	747.0	30.06	763.5	64	17.8	89	NE	6	2.7			10n		NE	0.85	21.6	Light rain	
Dodge City, Kansas	27.47	697.7	29.70	754.4	64	17.8	78	SE	4	1.8		0	0			0	0	Clear	
Dubuque, Iowa	29.44	747.8	30.14	765 5	60	15.6	77	NE	1	0.4		5k	0	NE		0	0	Fair	
Duluth, Minnesota	29.51	749.5	30.18	766.6	63	17.2	67	NE	8	3.6		0	0			0	0	Clear	
Eagle Pass, Texas	29.08	738.6	29.78	756.4	74	23.3	81	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	29.98	761.5	30.05	763.3	56	13.3	94	S	5	2.2			Fog		Calm	0	0	Foggy	
El Paso, Texas					80	26.7	47	Calm	0	0		2c	5s	Calm	W	0	0	Fair	
Erie, Pennsylvania	29.34	745.2	30.02	762.5	74	23.3	81	NE	4	1.8			10s			0	0	Cloudy	
Escanaba, Michigan	29.58	751.3	30.23	767.8	60	15.6	71	N	6	2.7		0	0			0	0	Clear	
Florence, Arizona					87	30.6	36	E			2	5k	0	SE		0	0	Fair	
Fort Craig, New Mexico	25.54	648.7	29.60	751.8	70	21.1	52	S	4	1.8		8cs	0	Calm		0	0	Cloudy	
Fort Davis, Texas	25.24	641.1	30.20	767.1	68	20.0	64	NW	4	1.8		2k	0	NE		0	0	Fair	
Fort Gibson, Indian Ter	29.45	748.0	29.96	761.0	71	21.7	75	E	5	2.2		0	0			0	0	Clear	
Fort Griffin, Texas	28.73	729.7	29.97	761.2	65	18.3	80	Calm	0	0		2s	0	Calm		0	0	Clear	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.80	731.5	29.88	758.9	65	18.3	80	N	8	3.6		0	2s		N	0	0	Fair	
Galveston, Texas	29.82	757.4	29.86	758.4	77	25.0	91	N	10	4.5		5k	0	E		0.80	20.3	Fair	
Grand Haven, Michigan	29.46	748.3	30.10	764.5	66	18.9	74	NE	10	4.5			10s		NE	0	0	Cloudy	
Indianapolis, Indiana	29.23	742.4	29.98	761.5	69	20.6	95	NE	4	1.8			10n		N	0.12	3.0	Light rain	
Indianola, Texas	29.83	757.7	29.85	758.2	79	26.1	87	NE	22	9.8		1ck	0	Calm		0	0	Clear	
Jacksboro, Texas	28.85	732.8	29.96	761.0	67	19.4	89	N	1	0.4		1k	4ks	N	N	0	0	Fair	
Jacksonville, Florida	29.80	756.9	29.83	757.7	81	27.2	74	NE	15	6.7		2k	0	NE		0.05	1.3	Fair	
Keokuk, Iowa	29.43	747.5	30.03	762.7	63	17.2	78	NE	7	3.1			10s		NE	0	0	Cloudy	
Key West, Florida	29.80	756.9	29.83	757.7	81	27.2	82	SW	9	4.0		1c	2ks	W	SW	0.48	12.2	Fair	
Kittyhawk, North Carolina	30.09	764.3	30.11	764.8	75	23.9	90	SE	5	2.2		0	0			0	0	Clear	
Knoxville, Tennessee	29.02	737.1	29.98	761.5	75	23.9	77	NE	4	1.8		3ck	0	E		0.01	0.3	Fair	
La Crosse, Wisconsin	29.44	747.8	30.16	766.1	64	17.8	68	W	3	1.3		0	0			0	0	Clear	
La Mesilla, New Mexico	26.07	662 2	30.22	767.6	63	18.3	68	Calm	0	0		8k	0	Calm		0	0	Fair	
Laredo, Texas	29.47	748.5	29.79	756.7	77	25.0	86	NE	2	0.9		0	0			0.11	2.8	Clear	
Lead City, Dakota	24.73	628.1			70	21.1	53	S	6	2.7		5c	0	S		0	0	Fair	
Leavenworth, Kansas	29.21	741.9	30.03	762.7	65	18.3	78	Calm	0	0		0	0			0	0	Clear	
Los Angeles, California	29.48	748.8	29.81	757.2	61	16.1	91	Calm	0	0			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.42	747.3	29.96	761.0	72	22.2	90	N	3	1.3			10s		NE	0.48	10.9	Cloudy	
Lynchburg, Virginia	29.41	747.0	30.06	763.5	77	25.0	77	SW	2	0.9			10ks		Calm	0.15	3.8	Cloudy	
Marquette, Michigan	29.52	749.8	30.21	766.3	63	17.2	47	NW	4	1.8		0	0			0	0	Clear	
Mason, Texas	28.32	719.3	30.01	762 2	70	21.1	75	NE	2	0.9		0	0			0	0	Clear	
Memphis, Tennessee	29.64	752.8	29.94	760.5	70	21.1	95	NE	6	2.7			10n		NE	0.11	2.8	Light rain	
Milwaukee, Wisconsin	29.41	747.0	30.13	765.3	63	17.2	83	N	12	5.4		0	0			0	0	Clear	
Mobile, Alabama	29.82	757.4	29.86	758.4	76	24.4	86	N	6	2.7			10s		Calm	0.03	0.8	Cloudy	
Montgomery, Alabama	29.69	754.1	29.91	759.7	77	25.0	77	E	3	1.3			10s		Calm	0.04	1.0	Cloudy	
Morgantown, West Virginia	29.02	737.1	30.00	762 0	83	28.3	64	Calm	0	0		2c	0	NW		0	0	Fair	
Mt. Washington, N. H.	24.08	611.6	30.44	773.2	61	16.1	71	Calm	0	0		5k	Haze	Calm	Calm	0	0	Fair	
Nashville, Tennessee	29.46	748.3	29.97	761.2	73	22 8	95	NE	2	0.9			10s		S	0.97	24.6	Cloudy	
New Haven, Connecticut	29.95	760.7	30.06	763.5	83	28.3	67	Calm	0	0		0	Haze		Calm	0	0	Clear	
New London, Connecticut	30.01	762.2	30.06	763.5	80	26.7	70	Calm	0	0		0	Haze		Calm	0	0	Clear	
New Orleans, Louisiana	29.75	755.6	29.81	757.2	79	26.1	82	NE	8	3.6			10ks		SE	0.27	6.9	Cloudy	
Newport, Rhode Island	30.02	762.5	30.06	763.5	74	23.3	81	Calm	0	0		0	0			0	0	Clear	
New York, New York	29.93	760.2	30.10	764.5	75	23.9	85	SW	4	1.8		0	Haze			0	0	Clear	
Norfolk, Virginia	30.06	763.5	30.12	765.0	84	28.9	68	S	5	2.2		2k	0	Calm		0	0	Clear	
North Platte, Nebraska	27.11	688.6	29.60	751.8	62	16.7	77	S	26	11.6		0	0			0	0	Clear	
Olympia, Washington Ter.	29.86	758.4	29.90	759.4	49	9.4	93	SW	1	0.4			10s		SW	0.28	7.1	Cloudy	
Omaha, Nebraska	28.98	736.1	30.02	762.5	65	18.3	73	SE	4	1.8		0	0			0	0	Clear	
Oswego, New York	29.73	755.1	30.04	763.0	79	26 1	78	S	4	1.8		5c	0	NW		0	0	Fair	
Pembina, Dakota	29.13	739.9	29.93	760.2	64	17.8	78	S	21	9.4		0	0			0	0	Clear	
Philadelphia, Pennsylvania	30.05	763.3	30.10	764.5	75	23.9	85	SW	4	1.8			10s;fg		SW;Calm	0	0	Cloudy	
Phœnix, Arizona	28.61	726.7	30.27	768.8	90	32.2	47	Calm			0	5k	0	Calm		Inap.	Inap.	Fair	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	38	3.3	45	SW	32	14.3		0	0			0.08	2.0	Clear	
Pioche, Nevada	23.87	606.3	29.64	752.8	63	17.2	15	S	17	7.6		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.22	742.2	29.99	761.7	77	25.0	69	S	5	2.2		5c	0	W		0	0	Fair	
Port Huron, Michigan	29.42	747.3	30.07	763.8	61	16.1	100	N	11	4.9			10n		Calm	0.56	14.2	Heavy rain	
Portland, Maine	29.94	760.5	29.99	761.7	78	25.6	73	Calm	0	0		1k	Haze	NE		0	0	Clear	
Portland, Oregon	29.90	759.4	30.01	762.2	53	11.7	79	SW	1	0.4			10ks		SW	0.12	3.0	Cloudy	
Prescott, Arizona	24.75	628.6	30.11	764.8	64	17.8	48	Calm			0	0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Rassa, Florida	29.81	757.2	29.83	757.7	80	26.7	78	N	2	0.9	.. ..	0	0	.....	.....	0.01	0.3	Clear	
Red Bluff, California	29.48	748.8	29.84	757.9	58	14.4	53	N	22	9.8	.....	.....	10ks	.....	NW	0	0	Cloudy	
Rochester, New York	29.45	748.0	30.04	763 0	74	23.3	86	W	10	4.5	.....	10k	0	NW	.....	Inap.	Inap.	Cloudy	
Roseburg, Oregon	29.45	748.0	30.02	762.5	50	10.0	96	Calm	0	0	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy	
Sacramento, California	29.78	756.4	29.86	758.4	54	12.2	74	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.03	762.7	65	18.3	89	N	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy,	
St. Marks, Florida	29.84	757.9	29.85	758.2	77	25.0	86	NE	12	5.4	.....	5ck	0	NE	.....	0.13	3.3	Fair	
St. Paul, Minnesota	29.80	744.2	30.10	764.5	64	17.8	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.36	644.1	29.69	754.1	72	22.2	34	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.21	741.9	29.77	756.1	74	23.3	55	N	3	1.3	.....	2k	0	W	.....	0	0	Fair	
San Diego, California	29.77	756.1	29.84	757.9	64	17.8	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.41	747.0	30.06	763.5	69	20.6	95	N	11	4.9	.....	.....	10s	.....	N	0.22	5.6	Cloudy	
Sandy Hook, New Jersey	30.07	763.8	30.10	764.5	81	27.2	74	W	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear	
San Francisco, California	29.83	757.7	29.90	759.4	53	11.7	80	W	16	7.2	.....	0	1ks	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	57	13.9	58	Calm	0	0	.....	5c	0	Calm	....	0	0	Fair	
Savannah, Georgia	29.83	757.7	29.92	760.0	77	25.0	86	NE	10	4.5	.....	0	8ks	....	NE	0.31	7.9	Threatning	
Shreveport, Louisiana	29.70	754.4	29.91	759.7	73	22.8	85	N	6	2.7	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Silver City, New Mexico	24.82	617.7	30.27	768.8	65	18.3	73	S	2	0.9	.....	.....	10s	.....	Calm	0.03	0.8	Cloudy	
Smithville, North Carolina	30.01	762.2	30.04	763.0	80	26.7	78	E	20	8.9	.....	5cs	2ks	SW	E	0.08	2.0	Cloudy	
Springfield, Massachusetts	29.87	758.7	29.99	761.7	81	27.2	67	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.96	684 8	29.96	761.0	64	17.8	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.98	761.5	30.03	762.7	71	21.7	81	SW	8	3.6	.....	0	Haze	.....	.....	0	0	Hazy	
Toledo, Ohio,	29.38	746.2	30.04	763.0	64	17.8	100	E	8	3.6	.....	.....	10n	.....	E	0.90	22.9	Light rain	
Tucson, Arizona	27.40	696.0	29.95	760.7	80	26.7	48	SE	.....	.....	1	5k	0	SE	.....	0	0	Fair	
Tybee Island, Georgia	29.87	758.7	29.90	759.4	79	26.1	82	E	26	11.6	.....	0	5s	.....	E	0.69	17.5	Threatning	
Umatilla, Oregon	29.48	748.8	.....	.....	54	12 2	74	W	4	1.8	.....	.....	10s	.....	W	0.02	0.5	Cloudy	
Vicksburg, Mississippi	29.64	752.8	29.88	758.9	74	23.3	90	NE	2	0.9	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Virginia City, Montana	24.06	611.1	29.54	750.3	58	14.4	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.55	750.6	29.92	760.0	58	13.3	63	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.00	762.0	30.11	764.8	79	26.1	78	S	5	2.2	.....	2k	0	W	.....	Inap.	Inap	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	69	20.6	16	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.96	761.0	30.03	762.7	79	26.1	79	E	7	3.1	.....	10c;k	0	N;E	.....	0.06	1.5	Cloudy	
Winnemucca, Nevada	25.38	644.6	29.74	755.4	52	11.1	35	SW	6	2.7	.....	5k	0	S	.....	0	0	Fair	
Wood's Holl, Mass	30.02	762.5	30.07	763.8	69	20.6	95	SW	6	2.7	.....	.....	10s;fg	.....	.....	0.02	0.5	Foggy	
Yankton, Dakota	28.80	731.5	30.06	763.5	63	17.2	78	S	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.48	748.8	29.63	752.6	82	27.8	55	S	8	3.6	.....	0	2ks	.....	Calm	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.04	760.5	29.99	761.7	64.5	18.1	76	NE	5	2.2	.....	2c	0	E	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.84	757.9	29.86	758.4	80	26.7	82	SW	2.4	1.1	.....	.....	10n	W	W	0.07	1.8	Cloudy	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	81	27.2	83	SE	5	2.2	.....	5c	2s	SE	Calm	0	0	.....	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	83	28.3	.....	E	30	13.4	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	29.98	761.5	29.98	761.5	83	28.3	75	E	.....	.....	3	5ck	5k	E	.....	0	0	⅜ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	66.5	19.2	87	Calm	0	0	.....	.....	10s;ks	.....	.....	0.08	2.0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,822 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,286 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,140.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.16 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.69 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. CHARACTER.	SEA-SWELL. DIRECTION FROM—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	29.88	758.9	57	13.9	55	12.8	74	W	26	11.6	....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.00	762.0	78	25.6	78	25.6	91	NE	4	1.8	....	.....	8	.....	SE.	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.11	764.8	89	31.7	81	27.2	70	SW	1	0.4	.....	.....	5	.....	.....	0	0	.....	.....	.....	
Naval Hospital, Yokohama, Japan	29.82*	757.4*	76	24.4	74.8	23.8	90	SW	.....	.....	5	.....	10n;ks	.....	SW	Slight	Slight	.....	.....	Light rain..	
Alliance, Lisbon, Portugal	30.19‡	766.8‡	.....	.....	73	22.8	72	SE	....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ashuelot, Nagasaki, Japan	29.84	757.9	80	26.7	80	26.7	96	SSW	.....	.....	5	.....	10	.....	Calm	.....	.....	.....	.....	Squally.....	
Alaska, N. 18° 45′, W. 40° 50′	30.26	768.6	80	26.7	80	26.7	78	ENE	.....	.....	6	.....	2	.....	E	.....	.....	Mod'ate	E	Clear.....	
Canonicus, New Orleans, La	29.84	757.9	55	12.8	77	25.0	91	N	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.	30.10‡	764.5‡	.....	.....	77	25.0	82	WSW	3	1.3	.....	.....	5	.....	SW	0	0	.....	.....	Foggy	
Constellation, N. 34° 00′, W. 70° 02′	30.24‡	768.1‡	.....	.....	79	26.1	86	E	.....	.....	2	.....	2	.....	E	.....	.....	Smooth	.....	Clear.....	
Constitution, Havre, France	29.94‡	760.5‡	.....	.....	58	14.4	100	NE	.....	.....	2	.....	9	.....	NE	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	29.81‡	757.2‡	.....	.....	82	27.8	75	SW	.....	.....	0–1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 18′ 44″, W. 60° 40′ 34″	29.92‡	760.0‡	.....	.....	80	26.7	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	30.26	768.6	79	26.1	79	26.1	74	ESE	2 5	1.1	.....	.....	8?	.....	SE	0	0	.....	.....	Clear.....	
Gettysburg Alexandria, Egypt	29.78‡	756.4‡	.....	.....	79	26.1	95	NNW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear..	
Guard, Rio de Janeiro, Brazil	30.13	765.3	74	23.3	72	22.2	85	N	.....	.....	2	.....	2	.....	N	.....	.....	.....	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.10	764.6	.....	.....	75	23.9	77	N	2.4	1.1	.....	.....	2	.....	N	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	29.62	752.3	81	27.2	83	28.3	27	NNW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.57	751.1	76	24.4	76	24.4	77	NE	.....	.....	1	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Monocacy, Yokohama, Japan	29.79‡	756.7‡	.....	.....	76	24.4	91	SSW	.....	.....	3	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.12†	765.0†	.....	.....	80	26.7	78	ENE	28	12.5	.....	.....	8	.....	N;E	0.12	3.0	.....	.....	Cloudy	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	62	16.7	80	SE	.....	.....	3	.....	5	.....	S	.....	.....	Long	W	Misty.....	
Palos, Che-foo, China	29.74	755.4	78	25.6	72	22.2	95	W	.....	.....	1	.....	5	.....	N&E	.....	.....	.....	.....	Damp	
Pensacola, Mare Island, California	29.98	761.5	62	16.7	54	12.2	87	WSW	7	3.1	.....	.....	1	.....	.....	.....	.....	.....	.....	Clear	
Plymouth, New York, N. Y.	30.01‡	762.2‡	.....	.....	80	26.7	100	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger, Hong-Kong, China	29.92*	760.0*	.....	.....	86	30 0	83	W	.....	.....	0–1	.....	2	.....	Calm	.....	.....	.....	.....	D. clouds....	
Rio Bravo, Brownsville, Texas	29.86	758.4	79	26.1	78	25.6	100	NW	.....	.....	1	.....	6	.....	.....	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	30.09‡	764.3‡	.....	.....	79	26.1	78	SW	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa	30.04	763.0	77	25.0	75	23.9	90	SW	2	0.9	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	30.00	762.0	62	16.7	59	15.0	88	E	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Swatara, Boston, Mass.	30.04‡	763.0‡	.....	.....	78	25.6	91	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Leghorn, Italy	29.66‡	753.9‡	.....	.....	74	23.3	68	WSW	.....	.....	5–6	.....	5	.....	N;W	0	0	.....	.....	Fair.....	
Tuscarora, Isla Grande, Mexico	29.58	751.3	77	25.0	77	25.0	91	Calm	.....	.....	0	.....	2	.....	SW	0.35	8.9	Long rolling	SW	Clear.....	
Vandalia, Smyrna, Turkey	29.78‡	756.4‡	.....	.....	87	30.6	55	W	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	29.99‡	761.7‡	.....	.....	83	28.3	67	W	4	1.8	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Wyoming, N. 49° 48′, W. 16° 20′	29.88	758.9	68	20.0	60	15.6	94	SSW	.....	.....	4	.....	10	.....	SSW	.....	.....	Smooth	.....	Overcast.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 34° 49', E. 139° 16'		29.80*	756.9*	76	24.4	100	S			6		9		S	1 hour	Mod'ate	SW	Squally	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		30.02*	762 5*				Calm			0		4		E				Fair	Capt. Seabury.
S. S. City of Peking, N. 43° 04', W. 152° 09'		30.05†	778.5†	53	11.7	100	SSW	25	11.2			0			Light	Smooth		Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 11° 37', W. 87° 18'		29.90†	759 4†	81	27.2	96	Calm			0		7		NNW		Very Small	SW	Showery	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature an: elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 41° 51', W. 64° 1'		30.07*	763.8*	58	14.4	100	WNW			2		Fog			0	Smooth		Foggy	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, Hong-Kong, China		29.82*	757.4*	88	31.1	80	SW			5		k		SW	Heavy			Raining	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.12*	765.0*	66	18.9	74	N			6		9		N	0			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.10	764.5	81	27.2	87	SSW			1		4		SW	0			Clear	Captain Morrison.
S. S. Pennsylvania, N. 44° 52′, W. 35° 41′		29.62†	752.3†	71	21.7	100	NW			3		7?		NW	0.25 in. or 6.3 mm.	Mod.	NW	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

S. S. Nederland																			Capt. Roudle.
S. S. Switzerland, N. 49° 30′, W. 8° 57′		30.22*	767.6*				NW	10	4.5			3		NE		Smooth		D. clouds	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 66° 13′, W. 67° 19′		30.09*	764.3*	35.5	1.9	69	S			1		10s			1.16 in. or 29.5 mm.			Cloudy	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 4, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	29.98	761.6	68.7	20.4	83	NE	.....	.....	5	.....	1	.....	.....	0	0	Very fair.....	Dr. Ollive.
Nemours	.....	.....	30.08	764.1	81.0	27.2	61	E	.....	.....	4	.....	0	.....	.....	0	0	Clear.....	Michel.
Algiers	.....	.....	30.09	764.2	78.4	25.8	67	NE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Tourlière.
La Calle	.....	.....	30.12	765.1	77.7	25.4	63	NNW	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair.	Foufrede.
Tunis	.....	.....	30.08	764.1	84.7	29.3	35	NW	.....	.....	8	.....	4	.....	.....	0	0	Cloudy.....	Jacques.
Sfax	.....	.....	30.16	766.0	84.2	29.0	.....	N	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Gau.
Saida	.....	.....	30.11	764.9	81.5	27.5	26	NNW	.....	.....	3	.....	4	.....	.....	0	0	Cloudy.....	Herbin.
Tebessa	.....	.....	30.17	766.3	.....	.....	.....	N	.....	.....	2	.....	2	.....	.....	0	0	Fair.....	Watrin.
Geriville	.....	.....	30.11	764.9	87.8	31.0	23	N	.....	.....	4	.....	3	.....	.....	0	0	Pretty fair..	Brugniaux.
Laghouat	.....	.....	30.11	764.7	88.2	31.2	18	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	30.11	764.9	95.0	35.0	28	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

Agram	29.20	741.7	29.74	755.3	63.9	17.7	75	SE	.....	.....	2	.....	10	.....	.....	0.094	2.4	Raining.....	Prof. Ivan Stoza.
Cracow, I. R. Observatory..	28.91	734.3	29.65	753.2	62.4	16.9	63	W	.....	.....	2	.....	10	.....	.....	0.571	14.5	.....	Dr. Wierzbiski.
Eperies	28.70	728.9	29.56	750.7	58.8	14.9	76	N	.....	.....	1	.....	10k;n	.....	S	0.772	19.60	.....	Julius Mikolik.
Gratz	28.59	726.1	29.81	757.1	62.8	17.1	68	NW	.....	.....	5	.....	10	.....	.....	0.657	16.70	.....	Andreas Rospini.
Hermannstadt	28.05	712.5	29.42	747.2	63.5	17.5	77	NW	.....	.....	1	.....	10	.....	.....	0.826	20.96	.....	Prof. Reissenberg
Kremsmünster	28.60	726.4	29.93	760.1	56.5	13.6	73	WNW	.....	.....	4	.....	10	.....	.....	0.606	15.4	.....	Prof. C. Wagner
Lemberg	28.44	722.3	29.37	746.1	65.8	18.8	49	SW	.....	.....	2	.....	10	.....	.....	0.157	4.0	.....	Dr. T. Stanecki.
Pola	29.65	753.2	29.76	756.0	67.3	19.6	72	NW	.....	.....	1	.....	10ns	.....	.....	0.524	13.3	.....	I.R.Hydrographic Office
Szathmar	28.99	736.4	29.45	748.0	58.1	14.5	100	NW	.....	.....	5	.....	10	.....	.....	1.686	42.8	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.66	753.4	29.76	756.0	73.4	23.0	65	WSW	.....	.....	1	.....	6	.....	.....	0.472	12.0	Thunder-storm.	P. Busin.
Vienna	29.13	739.9	29.84	757.9	57.9	14.4	76	NW	.....	.....	3	.....	10	.....	.....	0.718	18.1	.....	I. R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

Arlon	28.68	728.4	30.18	766.5	57.0	13.9	61	W	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.95	760.8	30.15	765.8	60.8	16.0	53	WNW	.....	.....	5	.....	9	.....	NW	0	0	.....	Royal Observatory
Furnes	30.17	766.4	30.20	767.0	66.0	18.9	56	WSW	.....	.....	3	.....	2	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.02	762.4	30.14	765.6	62.2	16.8	64	W	.....	.....	4	.....	7	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

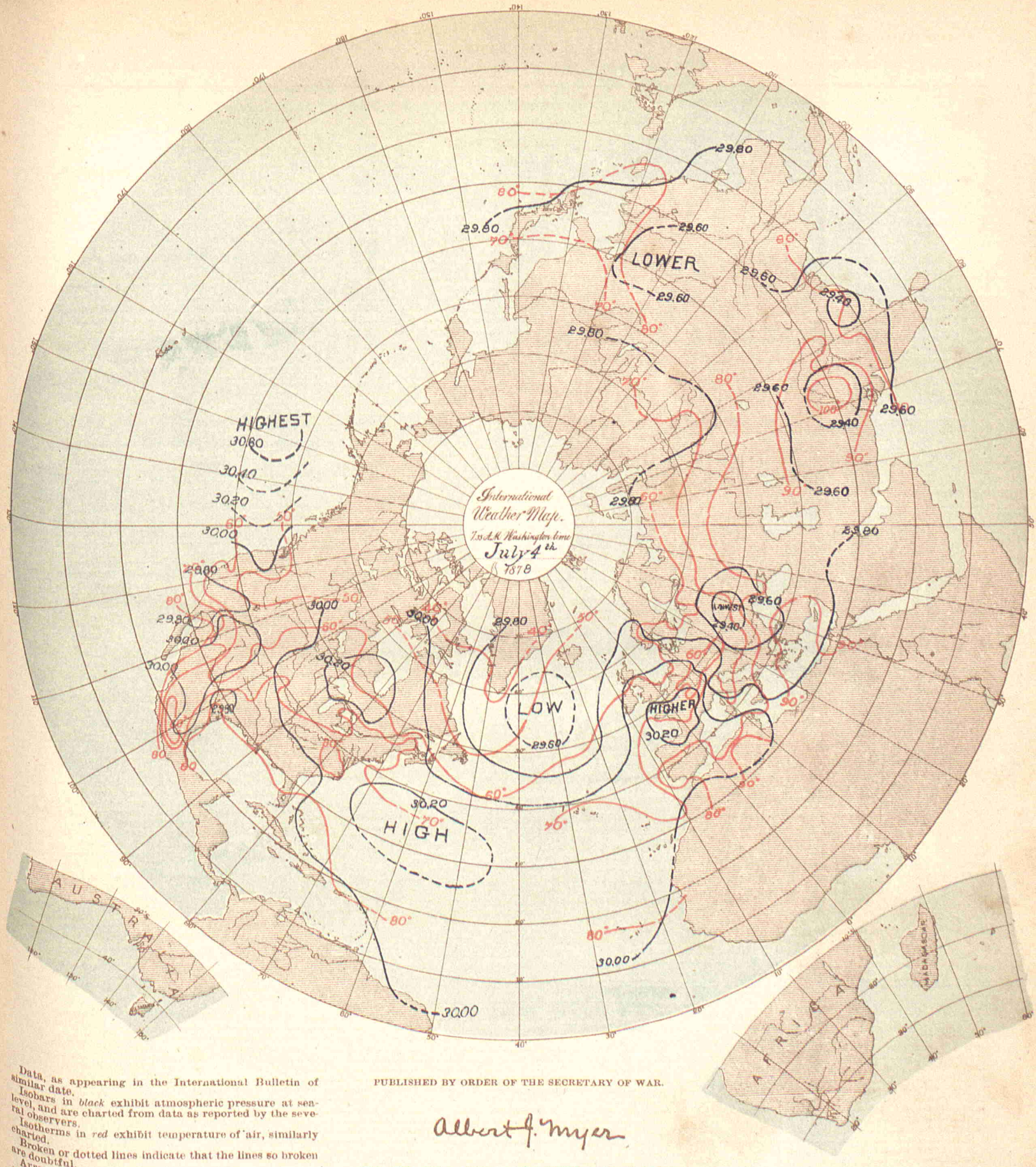
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.85	758.2	29.95	760.7	57.6	14.2	.....	SE	10	4.5	.....	.....	9	.....	.....	0.170	4.32	Overcast.....	W. Boswell.
Ardrossan	30.01	762.2	30.02	762.5	58	14.4	.....	SW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	30.08	764.0	61.0	16.1	.....	SW	10	4.5	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.11	764.8	61.1	16.2	.....	WNW	3	1.3	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.10	764.5	66.3	19.1	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.68	753.9	30.08	764.0	63.8	17.7	.....	W	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	83.5	28.6	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.12	765.0	68.0	20.0	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.12	765.0	71.6	22.0	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	Blue sky....	John McLaren.
Chatham, School M. E.	30.02	762.5	30.15	765.8	69.2	20.7	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky....	Lt. W. G. Morris, R. E.
Dartmoor	28.78	731.0	30.22	767.6	64.0	17.8	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.02	762.5	30.05	763.3	63	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	30.14	765.5	30.17	766.3	62	16 7	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	¾ clouded..	J. Costello.
Eccles, (near Manchester)	.....	.....	30.08	764.0	65.6	18 7	.....	NW	3.4	1.5	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Falmouth, Observatory	30.01	762.2	30.23	767.8	67.2	19.6	.....	SSW	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.70	703.6	29.99	761.7	64.0	17.8	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.72	754.9	29.95	761.0	80	26.7	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	30.03	762.7	63	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.98	761.5	30.04	763.0	76.0	24.4	.....	E	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.82	757.4	30.02	762.5	58.0	14.4	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.11	764.8	30.11	764.8	61	16.1	.....	SSE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.98	761.5	30.15	765.8	68.8	20.4	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	30.01	762.2	30.22	767.6	65.5	18.6	.....	NW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.22	767.6	67	19.4	.....	SW	.....	.....	4	.....	1c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.06	763.5	30.12	765.0	60	15.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	John Tilston.
Jersey	29.98	761.5	30.27	768.8	64.2	17.9	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds....	J. Fisher.
Kew, Observatory	.....	.....	30.15	765.8	66.2	19.0	.....	W	9	4.0	.....	.....	4	.....	.....	.....	.....	D. clouds....	The Staff.
Kingstown	30.09	764.3	30.12	765.0	65	18.3	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	.....	.....	30.12	765.0	65.0	18.3	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.83	757.7	29.90	759.4	78.8	26.0	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Sgt. Hewitt, A. H. C.
Nairn	29.83	757.7	29.92	760.0	60	15.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.01	762.2	85.8	29.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	C. S. Duncombe.
Nottingham, Observatory	29.92	760.0	30.10	764.5	71.7	22.1	.....	NNW	.....	.....	3	.....	10k	.....	WNW	0	0	Overcast....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.60	751.8	30.11	764.8	65.0	18.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.14	765.5	69	20.6	.....	WSW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast....	H.E. Bellamy.
Plymouth	30.14	765.5	30.21	767.3	69.5	20.8	.....	WNW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	30.10	764.5	30.14	765.5	63	17.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	30.01	762.2	30.17	766.3	64	17.8	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.88	758.9	54.8	12.7	.....	SW	22	9.8	.....	.....	10	.....	.....	.....	.....	Drizzling....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.50	749.3	86.4	30.2	.....	SW	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.83	757.7	30.11	764.8	66.9	19.4	.....	SW	.....	.....	2	.....	6	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	30.01	762.2	30.04	763.0	64 3	17.9	76	SW	.....	.....	6	.....	7	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.70	754.4	30.10	764.5	61.4	16.3	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.84	757.9	29.88	758.9	57	13.9	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	John Sutherland.
Stratfield Turgiss	29.95	760.7	30.17	766.3	63.7	17.6	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	Overcast....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.89	759.2	58	14.4	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast....	John Trotter.
Truro, Royal Institution	.....	.....	30.22	767 6	71	21.7	.....	SW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.08	764.0	64.3	17.9	.....	SSW	30	13.4	.....	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.61	752.1	52.0	11.1	80	NW	.....	.....	3	.....	10kn	.....	.....	0.10	2.5	Rainy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.79	756.7	29.98	761.5	71.9	22.2	76	WSW	9.5	4.2	.....	2	6	.....	SW	0	0	Fine; cloudy	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	51.0	10.6	80	NW	10	4.5	.....	.....	10	.....	.....	.....	0	Drizzling....	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Young, Clerk.
North Uns, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.														Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria, N. 50° 50′ W. 18° 10′	.....	.....	29.81	757.2	62	16.7	.....	SSW	.....	.....	5	.....	10	.....	.....	10 *	SW	Drizzling....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 61° 0′, W. 48° 35′	.....	.....	29.69	754.1	36	2.2	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	Foggy	Capt. Alex. Simpson.
Barque Virginia, N. 48° 10′, W. 61° 20′	.....	.....	29.94	760.5	56	13.3	.....	NW	.....	.....	4	.....	4	.....	.....	4	NW	D. clouds....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.22	666.0			69.4	20.8	91	Calm			0		10s;hz			0.2	5.		Federico Maison

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

DANISH SERIES.

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

Copenhagen	29.77	756.1	29.82	757.3	63.7	17.6	37	S			4		2					
Farõe	29.91	759.7	29.93	760.2	59.5	15.3	60	W			3		8					Foggy
Godthaab, (Greenland)	29.69	754.0	29.73	755.1	43.9	6.6	93	Calm			0		1					
Stykkisholm, (Iceland)	29.71	754.6	29.75	755.7	52.9	11.6	71	E			4		0					
Thorshavn, (Farõe)	29.71	754.6	29.74	755.5	55.0	12.8	85	NW			2		7					
Vestervig	29.72	755.0	29.89	759.3	57.2	14.0	78	W			6		10					

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.72	754.9	30.27	768.9	66 2	19	47	SW			2		2		N	0.028	0.7	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.08	764.0	30.19	766.7	68.7	20.4	61	N			2		2		NW	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	30.02	762.4	30.10	764.4	69.8	21	36	N			8		2		NW	0	0	Partly cl'dy	Mr. Giraud, Director.
Bar-sur-Seine	29.65	753.2	30.22	767.6	62.8	17.1	43	NE			2		5cn		N	0.197	5.0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.95	760.8	30.23	767.9	64.2	17.9	43	NNW			2		5		NW	0.059	1.50	Cloudy	Normal School.
Besançon	29.34	745.1	30.22	767.6	58.8	14.9	94	N			3		8		W	1.118	28.4	Very cloudy	Normal School.
Bourg-en-Bresse	29.87	745.9	30.30	769.7	60.3	15.7	64	N			8		5ck		W	0.16	4.	Cloudy	Normal School.
Bourges, Normal School	29.48?	748.8?	30.03?	762.8?	63.7	17.6	59	NNW			1		k		NNW	0.020	0.5		A. Wagner, Director.
Brest, Naval Observatory	29.98	761.6	30.23	767.8	74.8	23.8	56	SW			1		2k		SW	0	0		The Staff.
Carcassonne, Normal School	29.79	756.6	30.19	766.8	73.8	23.2	44	NW			2		2		NW	0.217	5.5	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.58	751.3	30.13	765.8	67.6	19.6	85	N			1		6		S	0.051	1.3		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.1	30.20	767.1	65.5	18.6	47	Calm			0		5ck			0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.89	733.9	30.23	767.8	64.9	18.3	50	N			2		5		N	0.079	2.0	Cloudy	Alluard, Director.
Commercy, Normal School	29.32	744.6	30.19	766.8	60.1	15.6	69	NW			4		5		SE	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.91	734.3	30.06	763.3	67.6	19.8	33	NW			8		2		NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	30.07	763.7	30.28	769.0	71.6	22.0	50	NW			1		5		N	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.93	760.1	30.23	767.7	66.7	19.3	75	N			2		2		NW	0.089	2.25	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.32	744.8	30.24	768.2	58.5	14.7	72	E			2		8		SE	0.449	11.40	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	30.18	766.6	30.28	769.1	70.2	21.2	61	WSW			2		2		N	0	0	¼ Covered	T. Carré, Director.
Mâcon, Normal School	29.53	750.0	30.17	766.4	59.2	15.1	71	Calm			0		10			0.163	4.15	Covered	M. Galzin, Director.
Mirecourt	29.11	739.4	30.14	765.6	59.5	15.3	49	NNW			2		10		SSE	0	0	Covered	Normal School
Nismes, Normal School	29.88	758.9	30.08	763.9	73.4	23	25	NW			6		2		N	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.82	757.4	30.19	766.9	74.3	23.5	47	NW			2		2		NW	0.04	1.	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.98	761.4	30.21	767.4	63.9	17.7	44	NW			2		5			0.216	5.48	Cloudy	National Observatory.
Privas	29.09	738.9	30.12	765.1	71.6	22	47	N			4		2		N	0	0	Slightly cl'dy	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.22	767.5	30.25	768.3	77.0	25.0	86	E			3		2		E	0	0	¼ Covered	Lt. Decante, Director.
Rouen, Normal School	30.12	765.0	30.13	765.2	67.5	19.7	35	NNW			2		5		W	0.055	1.4	Cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.17	740.9	30.21	767.4	75.2	24	67	W			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.53	750.1	30.28	769.1	63.7	17.6	79	NE			2		10		W	0.173	4.4	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.81	757.2	82.8	28.2										8.86	225.		L'Abbé Marchési.
Lyons			30.26	768.7	63.5	17.5	49						3			0.483	11.0		L. Jays.
Marseilles, Observatory			29.96	761.0	68.9	20.5	29	NW			6-8		0			0	0	Clear	The Staff.
Mont-Louis	25.02	635.5	30.34	770.5	58.6	14.8	36	NNW	9.3	4.17			0			0	0		M. Cave.
Nice			29.84	757.8	76.1	24.5	57	SW			1		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.93	760.3	30.21	767.3	63.1	17.3	51	NW			1		0		NW	0.228	5.8		Marié Davy, Director
Perpignan			30.17	766.2	73.6	23.1	50	NE	21.2	10.83			5		NW	0.008	0.2		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.72	577.0			46.0	7.8		SW?			1		9			0.098	2.5	Stormy	Gen'l de Nansouty.
Saint Maur, (near Paris)	30.05	763.3	30.22	767.5	66.0	18.9	50	NNW			1		6		NW	0	0	Cloudy	E. Renou.
Toulouse, Observatory	29.54	750.4	30.27	768.9	70.9	21.6	47	WNW			4		6			0	0		The Staff.
Tours																0.079	2.0		C. Marquet.
Versailles, (near Paris)			30.23	767.8	66.2	19.0	51	N			1		8			0.177	4.49	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.71	754.6	29.74	755.3	77.0	25.0	97	S	4.7	2.1			10kn			0.709	18.0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,536.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.2	29.91	759.6	59.7	15.4	85	W			4		7	W		0.16	4.	Raining	Prof. Dr. Hoh.
Berlin	29.69	754.0	29.85	758.2	65.8	18.8	59	NW			1		6			0.031	0.8	Raining	Prof. Arndt.
Breslau	29.30	744.2	29.83	757.6	62.6	17.0	49	NW			5		9			0.050	1.26		Royal University Obs'y
Carlsruhe	29.66	753.4	30.08	764.1	64.0	17.8	59	W			4		5			0.209	5.3	Raining	Albert Senz.
Cassel	29.45	748.0	30.06	763.5	63.0	17.2	35	NW			5		8	W		0.013	0.32		Dr. H. Möhl.
Crefeld	29.92	760.0	30.08	764.1	65.1	18.4	49	N			5		8cs			0.16	4.		Director Lose.
Emden	30.06	763.4	30.10	764.4	66.3	13.5	66	NW			5		10			0.087	2.2		Prof. Prestel.
Frankfort on the Main	29.76	755.8	30.11	764.9	64.6	18.1		WNW			4		8			0.035	0.9		Physical Society.
Friedrichshafen	28.70	728.9	30.15	765.9	48.9	9.4	87	NW			7		9	NW		0.177	4.5	Raining	M. Wilhelm.
Hamburg	29.86	758.5	29.93	760.3	62.8	17.1	69	NW			6		4k			0.067	1.7	Fair	Captain F. Hegemann.
Kiel	29.89	759.2	29.91	759.6	62.4	16.9	67	NW			3		7			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.60	751.7	29.67	753.7	62.2	16.8	56	NW			5		4			Inap.	Inap		Prof. E Luther.
Köslin			29.77	756.1	63.3	17.4		N			6		4			0	0		H. Müller.
Leipsic, Observatory	29.51	749.5	29.93	760.1	60.8	16.0	61	NW			6		9	NW		0	0		Prof. Bruhns.
Memel, Naval School	29.65	753.2	29.70	754.4	61.0	16.1	68	WNW			5		3ks						Reinbrecht and Skalweit.
Neufahrwasser	29.73	755.2	29.75	755.6	62.6	17.0	52	NNE			3		4	WNW		0.008	0.2		A. Lothes.
Posen	29.54	750.3	29.82	757.4	65.5	18.6	47	NW			5		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.60	751.9	30.15	765.7	62.6	17.0	48	NW			5		9	NNW		0.201	5.11	Raining	Astronomical Observatory.
Stuttgart	29.13	739.9	30.07	763.7	57.6	14.2	59	W			2		7	N		0.252	6.4	Raining	Prof. Schoder.
Treves, (Trier)	29.49	749.1	30.02	762.4	64.0	17.8	47	W			6		5			0	0	Foggy	Prof. Fiesch.
Weissenburg, (Bavaria)	28.53	724.6	29.99	761.7	53.6	12.0	66	NW	2	1			8ck		W	0.331	8.4		Dr. Von Bebber.
Wustrow, Naval School	29.85	758.2	29.89	759.2	64.8	18.2	64	N			3		8			0.035	0.9		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.30	744.1	29.67	753.5	91.9	33.3		SW			5.5							Clear.	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.37	746.0	29.42	747.2	89.1	31.7	68	WSW	39?	17.4?			8		WSW	0	0	D. clouds	
Deesa	28.98	736.0	29.43	747.5	98.0	36.7	43	S					9	E		0	0	D. clouds	
Bombay	29.54	750.4	29.58	751.3	78.8	26.0	93	W	13	5.8			10		S	3.95	100.3	Raining	
Poona	27.59	700.9	29.59	751.6	74.2	23.4	87	WSW					10	WSW		0	0	D. clouds	
Lahore	28.58	725.8	29.27	743.4	106.3	41.3	28	S	5.3	2.4			0			0	0		
Belgaum	27.18	690.3	29.72	754.8	73.1	22.8	91	W	8	3.6			9		W	1.12	28.4	Showery	
Bangalore																			
Roorkee	28.58	725.8	29.45	748.0	87.8	31.0	64	SE	8.4	3.8			9			0	0	Gloomy	
Agra	28.90	734.0	29.45	748.0	87.7	30.9	62	SE	10	4.5					E	0	0		
Trichinopoly																			
Nagpur	28.44	722.4	29.47	748.4	82.6	28.1	81	Calm	4.0	1.8			7		SE	0.15	3.8	Gloomy	
Madras																			
Lucknow	29.10	739.2	29.46	748.4	91.2	32.9	67	Calm	1.7	0.8			5		ESE	0	0	D. clouds	
Allahabad	29.14	740.2	29.44	747.9	86.0	30.0	86	NE	4.7	2.1			10		E	0.25	6.3	Overcast	
Patna	29.33	745.0	29.51	749.5	89.0	31.7	71	E	2.6	1.2			6	E	E	0.03	0.8	D. clouds	
Hazaribagh	27.51	698.8	29.49	749.0	82.0	27.8	77	E	11.0	4.9			8	W	E	0.16	4.1	Showery	
Cuttack	29.36	745.8	29.44	747.8	88.1	31.2	62	S	1.7	0.8			9			2.26	57.4	D. clouds	
Calcutta (Alipore)	29.54	750.4	29.56	751.0	79.7	26.5	93	S	10.0	4.5			10		S			Drizzling	
Goalpara	29.24	742.7	29.62	752.4	81.7	27.6	87	Calm	2.3	1.0			8	SW		0.05	1.3	D. clouds	
Chittagong	29.53	750.0	29.62	752.3	79.9	26.6	91	S	10.2	4.6			10			0	0	Overcast	
Sibsagar	29.29	743.9	29.62	752.3	84.2	29.0	82	SW	2.6	1.2			10			0.16	4.1	D. clouds	
Rangoon																			
Jubbulpore	28.09	713.6	29.44	747.8	79.5	26.4	70	Calm	4.7	2.1			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal, and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. nches.	Rain-fall or melted snow in the past 24 hours. illimeters.	Weather.	Observer.
Udine	29.36	745.7	29.76	755.8	73.2	22.9	42	SW	1.8	0.8	.....	.....	6	.....	.....	0.035	0.9	.....	Prof. Giovanni Clodig.
Padua	29.65	753.0	29.75	755.7	72.3	22.4	51	SE	9.4	4.2	.....	.....	5	SSW	.....	0.043	1.1	.....	Prof. Dott. Lorenzoni
Vicenza	29.58	750.7	29.74	755.4	74.7	23.7	28	N	1.3	0.6	.....	.....	5	W	.....	0.063	1.6	.....	Conte Alm. Da Schio.
Bergamo	28.49	723.6	29.75	755.7	73.8	23.2	18	W	.....	.....	6	.....	3	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.30	744.2	29.80	756.8	74.6	23.8	.....	N	.....	.....	6	.....	1	N	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.95	735 3	29.82	757.4	74.1	23.4	18	NNW	8.7	3.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.97	710.5	29.81	757.1	70.0	21.1	26	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.04	752.9	29.86	758.4	76.5	24.7	42	SW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.65	753.0	29.81	757.2	77.0	25.0	22	NW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.48	748.8	29.79	756.6	74.5	23.6	29	NW	.....	.....	6	.....	2	.....	.....	0.059	1.5	.....	Prof. P. Pigorini.
Florence	29.51	749.5	29.76	755.8	71.6	22.0	67	SE	.....	.....	2	.....	9	WSW	.....	0.055	1.4	.....	Cav. F Meucci.
Leghorn	29.66	753.3	29.74	755.4	73.8	23.2	48	NW	9.4	4.2	.....	.....	1	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.85	758.1	29.91	759.7	61.5	16.4	77	SE	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.30	718.8	29.80	756.9	58 3	14.6	73	NE	.....	.....	4	.....	10	.....	.....	0.118	3.0	.....	Prof. P. Serpieri.
Grosseto	29.67	753.5	29.77	756.2	74.8	23.8	48	WNW	.....	.....	6	.....	4	NW	.....	0.016	0 4	.....	Avv. P. Ponticelli.
Rome	29.60	751.7	29.76	756.0	67.8	19.9	65	E	6.3	2.8	.....	.....	9	.....	.....	0.630	16.0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.60	751.8	29.80	756.8	76.3	24.6	48	NW	.....	.....	4	.....	5	WSW	.....	0.354	9.0	.....	Prof. L. Palmieri.
Lecce	29.64	750.2	29.78	756.4	79.0	26.6	32	WNW	13.0	5.8	.....	.....	8	WNW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.71	754.5	29.89	759.2	74.7	23.7	37	NW	.....	.....	6	.....	1	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.95	735.2	29.79	756.6	75.6	24.2	69	SW	7.4	3.3	.....	.....	9	.....	.....	0.157	4.0	.....	Prof. F. D. Conti.
Palermo	29.66	753.4	29.91	759.7	75.9	24.4	43	W	19.2	8.6	.....	.....	3	W	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.71	754.6	29.78	756.5	77.2	25.1	61	E	.....	.....	4	.....	2	W	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.24	742 8	29.80	756.9	69.8	21.0	69	WSW	11.9	5.3	.....	.....	10	W	.....	0.319	8.1	.....	Prof. F. Brioschi.
.....																			
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.47	748.5	29.67	753 6	76.9	24.9	95	SSW	22.5	10.1	.....	.....	10n	.....	.....	3.990	101.35	Rainy	
Tokei (Yeddo)	29.67	753.6	29.74	755.4	76.5	24.7	85	SSW	16.1	7.2	.....	.....	10s;ck	.....	.....	0.285	7.24	Cloudy	The Observatory.
Tokei (Yeddo) University	29.62	752.3	29.72	751.9	76	24.4	93	SW	10	4 5	.....	.....	10ks	.....	.....	0.55	14.0	Cloudy	Prof. P. V. Veeder.
.....																			

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	24.96	634.7	29.93	7 60.1	59.4	15.2	82	SW	0.9	0.4	.....	0	7	.....	NE	0	0	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	65.6	18.6	79	S	0.9	0.4	.....	2c	0	NE	.....	0	0	Fair	Prof. M. Leal.
Mexico	23.05	585.5	30.04	763.0	55.4	13.0	85	NW	1.8	0.8	.....	3c	1s	E	.....	0.16	4.0	Fair	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.9	17.7	89	Calm	0	0	.....	9c	1s	.....	.....	0.11	2.8	Foggy	M. V. de Leon, M. E.
Puebla	23.28	591.3	29.91	759.7	54.7	12.6	76	N	4.5	2.0	.....	2c	4cs	.....	.....	0	0	⅛ cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. O. Velazquez.
Tlacotalpam	29.81	757.0	29.82	757.3	78.8	26.0	94	N	5.1	2.3	.....	0	10n	.....	N	4.79	121.0	Rainy	Prof. F. R. Bayly.
San Luis Potosi	24.17	613 1	30.06	763 4	65.0	18.3	76	E	0.9	0.4	.....	2cs	6k	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.84	758.0	29.87	758.7	79.7	26.5	84	Calm	0	0	.....	2c	4s	.....	.....	0	0	⅛ cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	60.8	16.0	86	E	11.0	4.9	.....	5	2	S	E	0.18	4.5	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.22	589.8	29.95	760.8	63.2	11.8	84	N	4.5	2.0	.....	1	0	.....	.....	0	0	Clear	Prof. P. Spina. [M.M. D. D
Morelia	24.04	610.5	.....	.....	66.2	19.0	62	N	0.9	0.4	.....	3c	0	NE	.....	0	0	Clear	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.28	718.2	29.88	759.1	80.6	27.0	83	.....	.....	.....	.....	.....	.....	.....	.....	0	0	⅛ cloudy.	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,803 m., or 5,210.4 ft.; Zacatecas, 2,196 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,366,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.18	766.6	30.18	766.6	63.1	17.3	.....	W	.....	.....	4	.....	.....	.....	.....	0.024	0.6	.....	
Groningen	29.96	760.9	30.01	762.3	58.8	14.9	.....	NW	.....	.....	3	.....	.....	.....	.....	0.016	0.4	.....	
Helder	29.70	754.3	29.70	754.3	58.3	14.6	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.11	764.7	30.11	764 7	62 6	17.0	61	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.07	763.8	30.12	765.0	63.3	17.4	57	WNW	.....	.....	4	.....	8	.....	.....	0.004	0.1	Very cloudy	H. v d Bruk.
.....																			

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.81	757.1	29.86	758.5	53.6	12.0	68	NW	7.4	3.3	.....	.....	4	.....	.....	1.024	26.0	.....	
Brönö	29.73	755.2	29.77	756.2	53.6	12.0	65	W	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.68	751.2	29.72	754.8	68.4	20.2	42	SSW	13	6	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.65	753.0	29.69	754.1	51.8	11.0	59	NE	4	2	.....	.....	4	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.85	758.2	30.04	763.0	72.0	22.2	91	W	7.4	3.3	.....	.....	8	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	29.09	738.9	30.07	763.8	88.3	31.3	14	ENE	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.07	763.8	30.16	766.0	75.0	23.9	66	SW	6.3	2.8	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.73	755.2	30.08	763.9	84.9	29.4	76	NE	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.08	763.9	30.15	765.7	75.6	24.2	82	SW	15.0	6.7	.....	.....	4	.....	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 3° 20′, E. 7° 50′	.....	.....	30.06	763.3	76.1	24.5	.....	Calm	.....	.....	0	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.24	768.0	70.7	21.5	.....	SE	.....	.....	3	.....	0	.....	.....	1	.....	Blue sky.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	30.01	762.3	82.8	28.2	.....	SW	.....	.....	2	.....	1	.....	SW	.....	.....	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.95	760.8	.....	.....	.....	W	.....	.....	2	.....	2	.....	.....	1	.....	Blue sky.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.23	742.4	29.61	752.8	65.8	18.8	41	NNW	18	8	.....	.....	9ks;c	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.16	740.7	29.67	751.1	60.3	15.7	88	N	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.47	748.4	29.70	754.3	64.4	18.0	69	NE	9	4	.....	.....	8ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.70	754.4	29.72	754.8	55.8	13.2	68	NW	11	5	.....	.....	4cs	.....	.....	.....	.....	.....	Central Physical Obs.
Knopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.78	731.1	29.39	746.4	66.0	18.9	92	SE	16	7	.....	.....	10m;c	.....	.....	.....	.....	Raining.....	Physical Cabinet.
Nikolaiev	29.43	747.5	29.59	749.3	89.6	32.0	35	S	22	10	.....	.....	4ck	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.69	754.2	29.71	754.7	73.9	23.3	91	SSE	11	5	.....	.....	3	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.21	742.0	29.73	755.2	75.6	23.9	48	S	7	3	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.8	29.63	752.7	86.4	30.2	38	SSE	2	1	.....	.....	7n	.....	.....	Blank	Blank	Light clouds	Meteorological Obs.
Archangel	29.63	752.7	29.65	753.2	52.0	11.1	73	WNW	4	2	.....	.....	9k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.44	722.4	29.77	756.1	86.5	30.3	41	W	4	2	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.80	756.8	29.71	754.7	88.5	31.4	36	NW	2	1	.....	.....	3k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.43	747.6	29.68	753.9	81.3	27.4	46	NW	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.78	731.1	29.67	753.7	78.3	25.7	56	NW	2	1	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.2	29 63	752.7	89.4	31.9	50	NNW	9	4	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.10	713.6	29.67	753.5	89.6	32.0	55	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.42	747.3	29.92	760.0	69.6	20.9	45	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.64	752.9	29.92	760.0	71.4	21.9	52	W	2	1	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.40	746.8	29.64	750.4	86.0	30.0	63	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 302 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.00	762.0	30.10	764.6	77.4	25.2	59	S	5.1	2.28	.....	2	.....	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.21	767.2	30.26	768.6	74.5	23.6	55	N	3.5	1.57	.....	3	2	NW	.....	Inap.	Inap.	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.30	693.4	.....	.....	66.2	19.0	54	NE	6.9	3.08	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.96	710.3	30.09	764.2	82.4	28.0	31	NW	6.0	2.67	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.97	761.2	30.11	764.8	85.3	29.6	49	SE	4.2	1.89	.....	1	1	E	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.26	743.1	30.12	765.1	75.4	24.1	50	NE	10.1	4.51	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.91	759.6	29.97	761.3	82.8	28.2	80	SE	7.8	3.5	.....	1c	0	.....	.....	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.8	30.05	763.2	87.8	31.0	31	ESE	29.3	13.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Fujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.4	29.99	761.7	79.9	26.6	86	SE	26.8	11.90	.....	5kn	5kn	SE	SE	0.384	9.75	Overcast.....	Leonardo de Tejeda, Ch'f Eng'r.

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.2	29.73	755.2	52.5	11.4	.....	SW	.....	.....	4	.....	6	.....	.....	0.079	2.0	.....	
Umea	29.74	755.3	29.79	756.6	56.8	13.8	65	S	.....	.....	2	.....	8	.....	.....	0	0	.....	
Hernosand	29.66	753.3	29.71	754.6	56.8	13.8	100	S	.....	.....	4	.....	9	.....	.....	0.028	0.7	.....	
Stockholm	29.60	751.7	29.77	756.2	59.7	15.4	57	WSW	.....	.....	4	.....	7	.....	.....	0.004	0.1	.....	
Wisby	29.69	754.1	29.75	755.6	56.8	13.8	73	NE	.....	.....	6	.....	8	.....	.....	0.106	2.7	.....	
Sub-Series.																			
Upsala	29.68	753.9	29.76	755.8	55.4	13.0	83	SSW	8.1	3.6	.....	.....	10	.....	NW	0.016	0.39	Raining	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.77	730.8	30.18	766.5	60.8	16.0	46	NNE	.....	.....	3	.....	6	.....	.....	0.205	5.2	Cloudy.....	The Observatory.
Zurich	28.52	724.3	30.15	765.7	56.5	13.6	65	W	.....	.....	2-4	.....	6	.....	.....	0 197	5.0	Rainy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.5 mm.; Thermometer, —6.2 cent.; Relative Humidity, —7 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.58	751.2	93.2	34.0	34	SW	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.88	759.0	83.8	28.8	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.66	753.4	29.77	756.2	89.8	32.1	59	WSW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.96	761.0	30.03	762.7	75.0	23.9	55	Calm	0	0	.....	0	0	.....	.....	0	0	Fine	Hon. J. Ferguson.
Brockville, Ontario	29.84	757.9	30.13	765.3	79	26.1	.....	Calm	0	0	.....	0	2s	.....	W	0	0	Clear.....	W. R. Bigg.
*Chatham, N B	30.01	762.2	30.07	763.8	71	21.7	64	W	3	1.3	.....	2c	0	NW	.....	0	0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.99	761.7	30.03	762.7	66	18.9	66	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.94	760.5	30.12	765.0	73.5	23.1	84	NE	.....	.....	2	2cs	8s	W	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	75	23.9	77	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	H. A. Johnson.
Esquimault, B. C	29.78	756.4	29.82	757.4	55.2	12.9	93	SW	.....	.....	.....	8ck;cs	0	.....	.....	0	0	Cloudy.....	W. H. Bevis.
*Father Point, Quebec	30.09	764.3	30.11	764.8	54	12.2	90	SW	16	7.2	.....	0	Haze	.....	Calm	0.05	1.3	Clear.....	J. McWilliams.
Fredericton, N. B	30.06	763.5	30.12	765.0	70.5	21.4	64	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.25	742.9	30.05	763.3	66	18.9	89	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.06	738.1	30.12	765.0	70	21.1	100	E	.....	.....	1	.....	10n	.....	.....	0.16	3.8	Overcast.....	James Grant.
*Halifax, N. S	29.88	758.9	30.01	762.2	69	20.6	89	N	8	3.6	.....	2c	0	N	.....	0	0	Fair.....	F. Allison, M. A.
Hamilton, Ontario	29.82	757.4	30.17	766.3	71.7	22.1	92	NE	.....	.....	1	10cs	0	SE	.....	0	0	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.82	757.4	29.85	758.2	51	10.6	86	SW	.....	.....	1	.....	10	.....	.....	0.04	1.0	Rain & fog..	E. Weedon.
*Kingston, Ontario	29.83	757.7	30.15	765.8	73	22.8	76	N	4	1.8	.....	10cs	0	Calm	.....	0.52	13.2	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.86	758.4	29.90	759.4	61.0	16.1	.....	NW	14	6.3	.....	8k	0	NW	.....	0	0	Cloudy.....	C. H. Rigby.
*Montreal, Quebec	29.96	761.0	30.15	765.8	75	23.9	68	W	4	1.8	.....	2c	5s	.....	.....	0	0	Fair.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.52	749.8	30.19	766.8	72	22.2	92	SE	2	0.9	.....	5k	5ks	SE	SE	Inap.	Inap.	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.45	748.0	30.17	766.3	71.7	22.1	86	NW	.....	.....	1	.....	10n	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.47	748.5	30.14	765.5	69	20.6	100	N	8	3.6	.....	.....	10n	.....	NE	1.36	34.5	Light rain...	H. Morgan.
Port Hastings, N. S	29.89	759.2	29.94	760.5	60.7	15.9	.....	NW	12	5.4	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.53	750.0	30.15	765.8	70	21.1	95	NE	4	1.8	.....	.....	10n	.....	E	0.36	9.1	Cloudy.	M. Payne.
*Quebec, Quebec	29.84	757.9	30.15	765.8	67	19.4	74	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.77	756.1	30.21	767.3	69	20.6	73	N	4	1.8	.....	2c	0	W	.....	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	30.06	763.5	30.11	764.8	70	21.1	70	N	1	0.4	.....	0	0	.....	.....	0.07	1.8	Clear.....	Dr. Gove.
St. John, N. B	29.97	761.2	30.13	765.3	69	20.6	75	N	8	3.6	.....	1ck	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.48	748.8	30.16	766.1	69	20.6	93	E	8	3.6	.....	.....	10ks	.....	NE	0.08	2.0	Cloudy	K. Stewart.
Stayner, Ontario	29.39	746.5	30.14	765.5	68	20.0	97	Calm	0	0	.....	.....	10n	.....	Calm	0.25	6.3	Light rain...	R. J. Cole.
Stratford, Ontario	28.90	734.0	30.14	765.5	68.6	20.3	98	E	3	1.3	.....	.....	10s	.....	.....	0.312	7.92	Cloudy.....	C. J. MacGregor, M. A
*Sydney, C. B	29.90	759.4	29.93	760.2	65	18.3	69	NW	10	4.5	.....	0	8ks	.....	NW	0	0	Fair.....	T. C. Hill.
*Toronto, Ontario	29.80	756.9	30.17	766.3	69	20.6	97	NE	10	4.5	.....	.....	10n	.....	W	2.08	52.8	Light rain...	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	48.5	9.2	96	NE	.....	.....	.....	5	5n	.....	.....	.....	.....	Light rain...	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,682 ft. or 860.3 m.

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.67	753.7	30.08	764.0	79	26.1	70	N	4	1.8	.....	8ck	0	W	.....	0	0	Fair	
Alpena, Michigan	29.50	749.3	30.12	765.0	71	21.7	57	NE	6	2.7	.....	5ck	0	NE	.....	0	0	Fair	
Atlantic City, New Jersey	30.12	765.0	30.14	765.5	76	24.4	86	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.80	756.9	29.98	761.5	75	23.9	86	E	7	3.1	.....	.....	10s	.....	E	0.21	5.3	Cloudy	
Baltimore, Maryland	30.10	764.5	30.15	765.8	78	25.6	78	SW	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.11	764.8	30.13	765.3	81	27.2	78	SW	11	4.9	.....	0	2s	.....	W	0	0	Clear	
Bismarck, Dakota	28.19	713.7	29.96	761.0	69	20.6	65	SE	22	9.8	.....	1cs	0	Calm	.....	0	0	Clear	
Boise City, Idaho	27.18	690.4	30.06	763.5	46	7.8	85	S	4	1.8	.....	5k	0	SE	.....	0.26	6.6	Fair	
Boston, Massachusetts	29.98	761.0	30.11	764.8	75	23.9	60	NE	17	7.6	.....	5c;cs	Haze	Calm/N	Calm	0	0	Fair	
Brackettville, Texas	28.64	728.5	29.66	753.4	72	22.2	54	E	6	2.7	.....	5cs	0	NW	.....	0	0	Fair	
Breckenridge, Minnesota	29.10	739.1	30.07	763.8	62	16.7	88	SE	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.81	757.2	29.87	758.7	80	26.7	86	N	3	1.3	.....	0	0	.....	.....	1.44	36.6	Clear	
Buffalo, New York	29.43	747.5	30.11	764.8	70	21.1	95	N	3	1.3	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	41	E	.....	.....	1	2ck	5ks	Calm	SE	0	0	Fair	
Burlington, Vermont	29.89	754.2	30.14	765.5	75	23.9	76	N	6	2.7	.....	5c	Haze	W	.....	0	0	Fair	
Cairo, Illinois	29.69	754.1	30.07	763.8	75	23.9	86	NE	5	2.2	.....	5ck	0	SE	.....	0.23	5.8	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	66	18.9	84	NE	.....	.....	1	.....	10n	.....	Calm	Blank	Blank	Light rain	
Camp Grant, Arizona	25.14	638.5	29.94	760.5	68	20.0	79	Calm	.....	.....	0	0	2s	.....	Calm	0.90	22.9	Fair	
Camp Verde, Arizona	26.58	675.1	30.07	763.8	77	25.0	35	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.22	691.4	29.79	756.7	41	5.0	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.07	763.8	30.08	764.0	79	26.1	82	SE	18	8.0	.....	.....	10s	.....	SE	0.20	5.1	Cloudy	
Cape Henry, Virginia	30.10	764.5	30.12	765.0	79	26.1	82	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.03	762.7	30.04	763.0	77	25.0	91	E	12	5.4	.....	.....	8s	.....	E	0.66	16.8	Clearing	
Cape May, New Jersey	30.14	765.5	30.16	766.1	75	23.9	85	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.92	760.0	29.98	761.5	79	26.1	91	E	6	3.6	.....	2cs	2s	Calm	E	1.59	40.4	Fair	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	56	13.3	81	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.45	748.0	30.13	765.3	63	17.2	83	NE	5	2.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Cincinnati Ohio	29.41	747.0	30.04	763.0	75	23.9	81	N	4	1.8	.....	7cs	0	N	.....	0	0	Fair	
Cleveland, Ohio	29.42	747.3	30.12	765.0	70	21.1	96	N	5	2.2	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Columbus, Ohio	29.29	744.0	30.08	763.5	76	24.4	81	N	.....	.....	1	2k	0	Calm	.....	0.15	3.8	Fair	
Concho, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Corsicana, Texas	29.47	748.5	29.92	760.0	70	21.1	95	NE	3	1.3	.....	2cs	8s	Calm	NE	0	0	Cloudy	
Davenport, Iowa	29.51	749.5	30.13	765.3	67	19.4	89	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denison, Texas	29.16	740.7	29.93	760.2	70	21.1	95	N	4	1.8	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Denver, Colorado	24.77	629.2	29.90	761.7	64	17.8	58	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.47	748.5	30.12	765.0	67	19.4	95	NE	4	1.8	.....	.....	10s	.....	NE	0.28	7.1	Cloudy	
Dodge City, Kansas	27.47	697.7	29.68	753.9	63	17.2	83	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.47	748.5	30.16	766.1	66	18.9	69	E	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Duluth, Minnesota	29.55	750.6	30.22	767.6	64	17.8	68	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.06	738.1	29.76	755.9	75	23.9	77	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.02	762.5	30.08	764.0	68	20.0	70	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	81	27.2	43	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.40	746.7	30.03	764.3	72	22.2	95	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Escanaba, Michigan	29.68	751.3	30.23	767.8	63	17.2	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	81	27.2	52	Calm	.....	.....	0	8k	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	25.48	647.2	29.54	750.3	70	21.1	42	S	4	1.8	.....	0	5ks	.....	S	0	0	Fair	
Fort Davis, Texas	25.21	640.3	30.17	766.3	67	19.4	60	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.95	760.7	73	22.8	90	E	1	0.4	.....	2ck	5ks	Calm	S	0	0	Fair	
Fort Griffin, Texas	28.70	729.0	29.92	760.0	70	21.1	61	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.79	731.3	29.86	758.4	68	20.0	79	N	7	3.1	.....	0	1s	.....	Calm	0	0	Clear	
Galveston, Texas	29.83	757.7	29.87	758.7	77	25.0	91	N	6	2.7	.....	5k	0	E	.....	0	0	Fair	
Grand Haven, Michigan	29.49	749.0	30.12	765.0	67	19.4	79	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.33	745.0	30.08	764.0	71	21.7	90	N	5	2.2	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianola, Texas	29.87	758.7	29.89	759.2	79	26.1	78	NE	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Jacksboro, Texas	28.84	732.5	29.92	760.0	71	21.7	85	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.89	759.2	29.92	760.0	77	25.0	86	Calm	0	0	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Keokuk, Iowa	29.47	748.5	30.06	763.5	68	20.0	95	E	6	2.7	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Key West, Florida	29.94	760.5	29.97	761.2	84	28.9	75	S	9	4.0	.....	8k;cs	1ks;n	S;W	Calm	0.02	0.5	Fair	
Kittyhawk, North Carolina	30.09	764.3	30.11	764.8	79	26.1	87	E	8	3.6	.....	8cs	0	S	.....	0	0	Fair	
Knoxville, Tennessee	29.03	738.6	30.04	763.0	75	23.9	68	NE.	9	4.0	.....	6cs	0	Calm	.....	0	0	Fair	
La Crosse, Wisconsin	29.45	748.0	30.17	766.3	64	17.8	78	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	71	21.7	45	E	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Laredo, Texas	29.46	748.3	29.79	756.7	80	26.7	82	E	2	0.9	.....	0	0	.....	.....	1.34	34.0	Clear	
Lead City, Dakota	24.77	629.2	.....	.....	70	21.1	61	S	6	2.7	.....	5c	0	S	.....	Inap.	Inap.	Fair	
Leavenworth, Kansas	29.22	742.2	30.04	763.0	68	20.0	90	SE	3	1.3	.....	.....	10ks	.....	SE	0	0	Cloudy	
Los Angeles, California	29.11	747.0	29.74	755.4	56	13.3	87	NE	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.49	749.0	30.02	762.5	74	23.3	86	N	4	1.8	.....	8c	0	SW	.....	0.17	4.3	Fair	
Lynchburg, Virginia	29.45	748.0	30.09	764.3	82	27.8	59	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.53	750.0	30.23	767.8	62	16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.30	718.8	30.00	762.0	69	20.6	84	W	3	1.3	.....	5ck	0	NW	.....	0	0	Fair	
Memphis, Tennessee	29.70	754.4	30.00	762.0	77	25.0	72	E	7	3.1	.....	5cs	5s	SE	SE	0.33	8.4	Cloudy	
Milwaukee, Wisconsin	29.45	748.0	30.17	766.3	63	17.2	83	N	2	0.9	.....	.....	10ks	.....	.....	0	0	Cloudy	
Mobile, Alabama	29.88	758.9	29.92	760.0	77	25.0	86	E	4	1.8	.....	.....	10s	.....	E	0.43	10.9	Cloudy	
Montgomery, Alabama	29.72	754.9	29.95	760.7	78	25.6	65	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.08	738.9	30.08	764.0	80	26.7	66	Calm	0	0	.....	1c	0	Calm	.....	0.11	2.8	Clear	
Mt. Washington, N. H.	24.09	611.9	30.45	773.4	56	13.3	93	NW	12	5.4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.52	749.8	30.03	762.7	76	24.4	86	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	29.98	761.5	30.09	764.3	81	27.2	74	NW	5	2.2	.....	2ck	Haze	Calm	Calm	Inap	Inap.	Clear	
New London, Connecticut	30.06	763.5	30.10	764.5	79	26.1	78	NW	4	1.8	.....	1cs	Haze	Calm	Calm	0	0	Clear	
New Orleans, Louisiana	29.81	757.2	29.87	758.7	79	26.1	87	N	4	1.8	.....	5k	2ks	SE	NE	0.62	15.7	Fair	
Newport, Rhode Island	30.03	762.7	30.07	763.8	76	24.4	82	N	4	1.8	.....	2c	0	SW	.....	0	0	Clear	
New York, New York	29.94	760.5	30.11	764.8	77	25.0	82	NW	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.08	764.0	30.13	765.3	82	27.8	71	E	7	3.1	.....	5k;cs	0	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.14	689.3	29.64	752.8	62	16.7	77	SE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.90	759.4	29.94	760.5	54	12.2	73	S	7	3.1	.....	0	5s	.....	S	0	0	Fair	
Omaha, Nebraska	28.98	736.1	30.02	762.5	70	21.1	90	SE	1	0.4	.....	0	5s	.....	SE	0	0	Fair	
Oswego, New York	29.82	757.4	30.11	765.5	74	23.3	86	N	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Pembina, Dakota	29.25	742.9	30.05	763.3	64	17.8	78	S	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.09	764.3	30.14	765.5	77	25.0	76	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Phœnix, Arizona	28.62	726.9	.....	.....	99	37.2	16	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.00	457.2	30.29	767.1	38	3.3	31	SW	21	9.4	.....	5c	0	W	.....	0	0	Fair	
Ploche, Nevada	23.94	608.1	29.71	754.6	54	12.2	10	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.31	744.5	30.08	764.0	74	23.3	81	NE	1	0.4	.....	5c	0	NW	.....	0	0	Fair	
Port Huron, Michigan	29.48	748.8	30.14	765.5	62	16.7	100	N	0	2.7	.....	.....	Fog	.....	Calm	0.57	14.5	Dense fog	
Portland, Maine	30.06	763.5	30.11	764.8	73	22.8	67	NE	11	4.9	.....	10k	Haze	NW	.....	Inap.	Inap.	Cloudy	
Portland, Oregon	29.91	759.7	30.02	762.5	54	12.2	86	SE	4	1.8	.....	.....	10ks	.....	S	0.40	10.2	Cloudy	
Prescott, Arizona	24.79	629.8	30.15	765.8	77	25.0	25	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	29.94	760.5	29.96	761.0	80	26.7	87	SW	24	10.7	.....	.....	10n	.....	SW	0.30	7.6	Light rain...	
Red Bluff, California	29.52	749.8	29.88	758.9	58	14.4	47	N	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Rochester, New York	29.52	749.8	30.10	764.5	72	22.2	90	E	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy.....	
Roseburg, Oregon	29.46	748.3	30.02	762.6	53	11.7	90	E	3	1.3	.....	.....	10n	.....	Calm	0.54	13.7	Light rain...	
Sacramento, California	29.76	755.9	29.84	757.9	61	16.1	55	N	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.52	749.8	30.08	764.0	70	21.1	95	NE	3	1.3	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
St. Marks, Florida	29.89	759.2	29.90	759.4	77	25.0	86	N	4	1.8	.....	10ck	0	NE	.....	0.02	0.5	Cloudy.....	
St. Paul, Minnesota	29.32	744.7	30.13	765.3	65	18.3	78	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.56	649.2	29.80	759.2	53	11.7	48	NE	2	0.9	.....	Haze	Haze	.....	.....	0	0	Hazy.....	
San Antonio, Texas	29.20	741.7	29.76	755.9	74	23.3	76	N	2	0.9	.....	5ck	0	NE	.....	0	0	Fair.....	
San Diego, California	29.72	754.9	29.79	756.7	64	17.8	83	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Sandusky, Ohio	29.47	748.5	30.12	765.0	71	21.7	95	NE	8	3.6	.....	.....	10n	.....	N	0.85	21.6	Light rain....	
Sandy Hook, New Jersey	30.08	764.0	30.11	764.8	84	28.9	68	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California	29.81	757.2	29.87	758.7	55	12.8	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	57	13.9	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Savannah, Georgia	29.84	757.9	29.93	760.2	76	24.4	95	NE	10	4.5	.....	.....	10n	.....	NE	0.57	14.5	Light rain...	
Shreveport, Louisiana	29.71	754.6	29.92	760.0	75	23.9	90	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy.....	
Silver City, New Mexico	24.26	616.2	30.20	767.1	65	18.3	62	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Smithville, North Carolina	30.00	762.0	30.04	763.0	78	25.6	86	E	20	8.9	.....	0	5ks	.....	E	1.98	50.3	Fair	
Springfield, Massachusetts	29.90	759.4	30.03	762.7	82	27.8	67	NE	3	1.3	.....	8ck	0	NE	.....	0	0	Fair.....	
Stockton, Texas	26.91	683.5	29.91	759.7	58	14.4	41	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	30.06	763.5	30.12	765.0	70	21.1	90	N	12	5.4	.....	2k	Haze	NW	.....	0	0	Hazy.....	
Toledo, Ohio,	29.46	748.3	30.12	765.0	67	19.4	100	Calm	0	0	.....	.....	10s	.....	Calm	0.17	4.3	Cloudy.....	
Tucson, Arizona	27.37	695.2	29.92	760.0	82	27.8	52	W	.....	.....	1	5k	2s	Calm	Calm	0	0	Fair	
Tybee Island, Georgia	29.88	758.9	29.91	759.7	79	26.1	91	E	20	8.9	.....	.....	10s	.....	E	1.42	36.1	Threatening	
Umatilla, Oregon	29.67	753.1	.....	.....	56	13.3	57	SW	16	7.2	.....	0	5ks	.....	W	Inap.	Inap	Fair	
Vicksburg, Mississippi	29.69	754.1	29.94	760.5	76	24.4	86	E	4	1.8	.....	8c	0	Calm	.....	0.40	10.2	Fair	
Virginia City, Montana	24.23	615.4	29.71	754.6	50	10.0	45	SE	1	0.4	.....	0	0	.....	.....	0.01	0.3	Clear.....	
Visalia, California	29.49	749.0	29.85	758.2	54	12.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	30.05	763.3	30.16	766.1	79	26.1	78	S	5	2.2	.....	2k	0	W	.....	0	0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	5	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Wilmington, N. Carolina	29.95	760.7	30.02	762.5	77	25.0	90	E	9	4.0	.....	2k	0	E	.....	2.42	61.5	Fair	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	40	4.4	48	NE	12	5.4	.....	5es	0	SW	.....	0	0	Fair.....	
Wood's Holl, Mass.	30.03	762.7	30.08	764.0	72	22.2	90	NW	5	2.2	.....	Haze	Haze	Calm	Calm	0	0	Clear.....	
Yankton, Dakota	28.83	732.3	30.09	764.3	66	18.9	84	S	10	4.5	.....	0	5s	.....	SE	0	0	Fair	
Yuma, Arizona	29.46	748.3	29.62	752.3	77	25.0	65	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	30.06	763.5	30.10	764.5	60.5	15.8	66	E	15	6.7	.....	4k	2s	NE	NE	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.92	760.0	29.94	760.5	81	27.2	82	SE	2.4	1.1	.....	10c	0	Calm	.....	0	0	Fair.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	81	27.2	83	Calm	0	0	.....	5c	2s	Calm	SE	0	0	.....	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	83	28.3	.....	E	13	5.8	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.01	762.2	30.01	762.2	81	27.2	87	NE	.....	.....	2	.....	8ks	.....	.....	0	0	½ cloudy...	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	67.0	19.4	78	Calm	0	0	.....	2cs	2ks	.....	.....	0.12	3.0	.....	Thomas Herran.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,700 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,700 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,982.2 (?) ft., or 2,081.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,546 (?) ft., or 776.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) ft., or 1,761.4 (?) m.; Prescott, 5,582 ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,982.2 (?) ft., or 2,081.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,546 (?) ft., or 776.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,582 Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.86	758.4	58	14.4	55	12.8	74	NW	1	0.4	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Navy Yard, Pensacola, Fla.	30.05	763.3	78	25.6	78	25.6	86	NE	7	3.1	.....	.....	0	.....	.....	0.17	4.3	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.99	761.7	85	29.4	77	25.0	69	S	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	29.73*	755.1*	75	23.9	74.5	23.6	93	SW	.....	.....	6	.....	10ks	.....	SW	0.98	24.9	.....	.....	Cloudy	
Alliance, Lisbon, Portugal	30.07‡	763.8‡	.....	.....	80	26.7	44	NE	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Pleasant	
Ashuelot. Nagasaki, Japan	29.73	755.1	78	25 6	76	24.4	100	SSW	.....	.....	7	.....	10	.....	SSW	.....	.....	.....	.....	Raining	
Alaska, N.16° 33′, W. 39° 52′	30.18	766.6	80	26.7	80	26.7	82	E	.....	.....	4	.....	2	.....	E	.....	.....	Mod'ate	E	Clear	
Canonicus, New Orleans, La.	29.92	760.0	56	13.3	78	25.6	91	NE	.....	.....	3	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	30.11‡	764.8‡	.....	.....	78	25.6	78	SW	3	1.3	....	.....	2	.....	SW	0	0	.....	.....	Light fog	
Constellation, N. 35° 44′, W. 71° 25′	30.24‡	768.1‡	.....	.....	77	25.0	91	ESE	.....	.....	3	.....	10	.....	E	.....	.....	Smooth	.....	Drizzling	
Constitution, Havre, France	30.21‡	767.3‡	.....	.....	64	17.8	89	WNW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Despatch, Prince's Islands, Sea of Marmora	29.62‡	752.3‡	.....	.....	82	27.8	52	SW	.....	.....	3	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.92‡	760.0	.....	.....	81	27.2	96	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va.	30.28	769.1	80	26.7	79	26.1	78	SSE	2.4	1.1	.....	.....	8	.....	SE	0	0	.....	.....	D.clouds	
Gettysburg Alexandria, Egypt	29.79‡	756.7‡	.....	.....	83	28.3	96	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Guard, Rio de Janeiro, Brazil	30.12	765.0	75	23.9	72	22.2	80	N	.....	.....	2	.....	2	.....	N	.....	.....	.....	.....	Clear	
Hartford, Rio de Janeiro, Brazil	30.09	764.3	.....	.....	75	23.9	72	N	6.0	2.7	.....	.....	2	.....	N	0	0	.....	.....	Fair	
Marion, Villefranche, France	29.85	758.2	76	24.4	77	25.0	49	S	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.	29.87	758.7	74	23.3	74	23.3	90	WNW	.....	.....	1	.....	10	.....	WNW	.....	.....	.....	.....	Cloudy	
Monocacy, Yokohama, Japan	29.72‡	754.9‡	.....	.....	75	23.9	95	S	.....	.....	3	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.14†	765.5†	.....	.....	78	25.6	95	ENE	17	7.6	.....	.....	8	.....	N;E	0.18	4.6	.....	.....	Cloudy	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	64	17.8	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Che-foo, China	29.77	756.1	76	24.4	73	22.8	90	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Pensacola, Mare Island, California	29.95	760.7	64	17.8	56	13.3	81	SSW	3	1.3	.....	.....	1	.....	.....	.....	.....	.....	.....	Clear	
Plymouth. New York, N. Y.	30.07‡	763.8‡	.....	.....	81	27.2	83	SSW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Ranger, Hong-Kong, China	29.85*	758.2*	.....	.....	85	29.4	87	Calm	.....	.....	0	.....	4	....	Calm	.....	.....	.....	.....	D. clouds	
Rio Bravo, Brownsville, Texas	29.83	757.7	81	27.2	77	25.0	95	WNW	.....	.....	2	.....	4	.....	Calm	.....	.....	.....	.....	Clear	
Santee, Annapolis, Md.	30.10‡	764.5‡	.....	.....	79	26.1	82	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
St. Louis, League Island, Pa.	30.03	762 7	78	25.6	78	25.6	78	SW	8	3.6	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Supply, Havre, France	30.27	768.8	64	17.8	65	18.3	78	NW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Swatara, Boston, Mass.	30.12‡	765 0‡	.....	.....	75	23.9	90	ENE	.....	.....	3	.....	2	.....	E	.....	.....	.....	.....	Clear	
Trenton, Leghorn, Italy	29.73‡	755.1‡	.....	.....	74	23.3	81	WNW	.....	.....	2–5	.....	2	.....	N;W	0	0	.....	.....	Clear	
Tuscarora, Isla Grande, Mexico	29.51	749.5	77	25.0	79	26.1	86	ENE	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, Smyrna, Turkey	29.65‡	753.1‡	.....	.....	90	32.2	36	S	.....	.....	4	.....	5	.....	S	.....	.....	.....	.....	Squally	
Wabash, Boston, Mass.	30.10‡	764.5‡	.....	.....	73	22.8	68	ENE	10	4.5	.....	.....	2	.....	Calm	0	0	.....	.....	Fair	
Wyoming, N. 49° 58′, W. 20° 50′	29.47	748.5	67	19.4	59	15.0	100	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Mod'ate	SW	Squally	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper	Lower	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10	From —	From —		CHARACTER.	DIRECTION FROM—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 33° 24′, E. 136° 41′		29.90*	759.4*	70	26.1	100	SW			4		8		SW	0	Light	SW	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Seattle, W. T.		30.53*	775.4*				WNW					6		W				Fair	Capt. Seabury.
S. S. City of Peking, N. 43° 04′, W. 146° 22′		30.61†	777.5†	52	11.1	100	N	6	2.7			10		N		Small	N	Overcast	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 8° 31′, W. 83° 26′		29.90†	759.4†	79	26.1	95	Calm			0		7		NW		Very small	SW	Showery	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 40° 18′, W. 71° 32′		30.06*	763.5*	68	20.0		NE			2				N	0	Smooth		D. clouds	Capt. B. Gleadell.
S. S. Germanic, River Mersey		30.16†	766.1†	61	16.1	100	NW			4		10			0			D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer
S. S. Gaelic, N. 28° 36′ E. 118° 02′		29.71*	754.6*	79	26.1	78	S			3		c		SW	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. O. Pohle.
S. S. Braunschweig, N. 52° 40′, E. 3° 44′		30.07	763.8	58.0	14.4	76	NW			5		10		NW			N	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—Continued.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.32*	770.1*	74	23.3	86	S			2		7		S	0			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.04†	763.0†	84	28.9	95	SSW			2		4		SSW	0			Clear	Captain Morrison.
S. S. Pennsylvania, N. 46° 37′, W. 28° 37′		29.86†	758.4†	66	18.9	100	SW			4		8		SW	0.062 in or 1.57 mm.	Mod.	WSW	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

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

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 66° 13′, W. 67° 19′		29.92*	760.0*	40.0	4.4	72	Calm			0		10ks						Raining	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 5, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	29.98	761.6	68.9	20.5	80	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Dr. Ollive.
Nemours	.....	.....	30.11	764.8	79.5	26.4	59	ESE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair.	Michel.
Algiers	.....	.....	30.07	763.8	77.7	25.4	65	ENE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.13	765.4	77.2	25.1	62	NNW	.....	.....	5	.....	4	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	30.15	765.9	82.8	28.2	34	NW	.....	.....	7	.....	2	.....	.....	0	0	Fair	Jacques.
Sfax	.....	.....	30.24	768.0	82.4	28.0	.....	NNW	.....	.....	6	.....	1	.....	.....	0	0	Very fair	Gau.
Saida	.....	.....	30.14	765.6	85.3	29.6	22	NE	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.20	767.1	.....	.....	.....	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	30.19	766.8	87.1	30.6	24	SE	.....	.....	4	.....	7	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.14	765.5	87.1	30.6	23	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.17	766.4	92.8	33.8	28	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cracow, I. R. Observatory	29.47	748.6	30.00	762.1	69.3	20.7	39	SW	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. Ivan Stoxu
Eperies	29.10	739.0	29.85	758.1	63.3	17.4	54	W	.....	.....	3	.....	5	.....	.....	0	0	.....	Dr. Wierzbiski.
Gratz	28.97	735.8	29.83	757.6	63.0	17.2	59	NW	.....	.....	5	.....	8cks	.....	SE	0.077	17.2	.....	Julius Mikolik.
Hermannstadt	28.81	731.8	30.03	762.7	66.4	19.1	63	NW	.....	.....	6	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Kremsmünster	28.38	720.8	29.78	756.5	56.1	13.4	82	WNW	.....	.....	1	.....	10	.....	.....	0.224	5.70	.....	Prof. Reissenberg
Lemberg	28.77	730.8	30.10	764.4	60.8	16.0	59	W	.....	.....	5	.....	7	.....	.....	0	0	.....	Prof. C. Wagner
Pola	28.64	727.5	29.80	751.9	60.8	16.0	71	NW	.....	.....	3	.....	10	.....	.....	0.087	2.2	.....	Dr. T. Stanecki.
Szathmar	29.95	760.8	30.07	763.6	72.7	22.6	50	W	.....	.....	3	.....	1k	.....	.....	0.043	1.1	.....	I.R.Hydrographic Office
Szegedin	29.36	745.7	29.81	757.2	68.3	17.4	52	N	.....	.....	5	.....	10	.....	.....	0	0	.....	Johann Tamas, S. J.
Trieste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Vienna	29.93	761.0	30.03	764.0	72.0	22.2	47	Calm	.....	.....	0	.....	1	.....	.....	0	0	Almost clear	P. Busin.
.....	29.31	744.4	30.01	762.2	65.7	18.7	47	NW	.....	.....	3	.....	4	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brussels	28.70	728.9	30.18	766.5	65.5	18.6	58	W	.....	.....	4	.....	6	.....	.....	0	0	.....	Prof. M. Passau.
Furnes	29.02	759.9	30.11	764.8	69.1	20.6	69	SW	.....	.....	6	2	3	NW	WSW	0	0	.....	Royal Observatory
Maeseyck	30.13	765.3	30.15	765.9	65.8	18.8	73	WSW	.....	.....	6	.....	8	.....	.....	0	0	.....	M. E. de Cae.
.....	30.01	762.3	30.14	765.5	65.6	18.6	77	SSW	.....	.....	4	.....	10	.....	.....	0.094	2.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

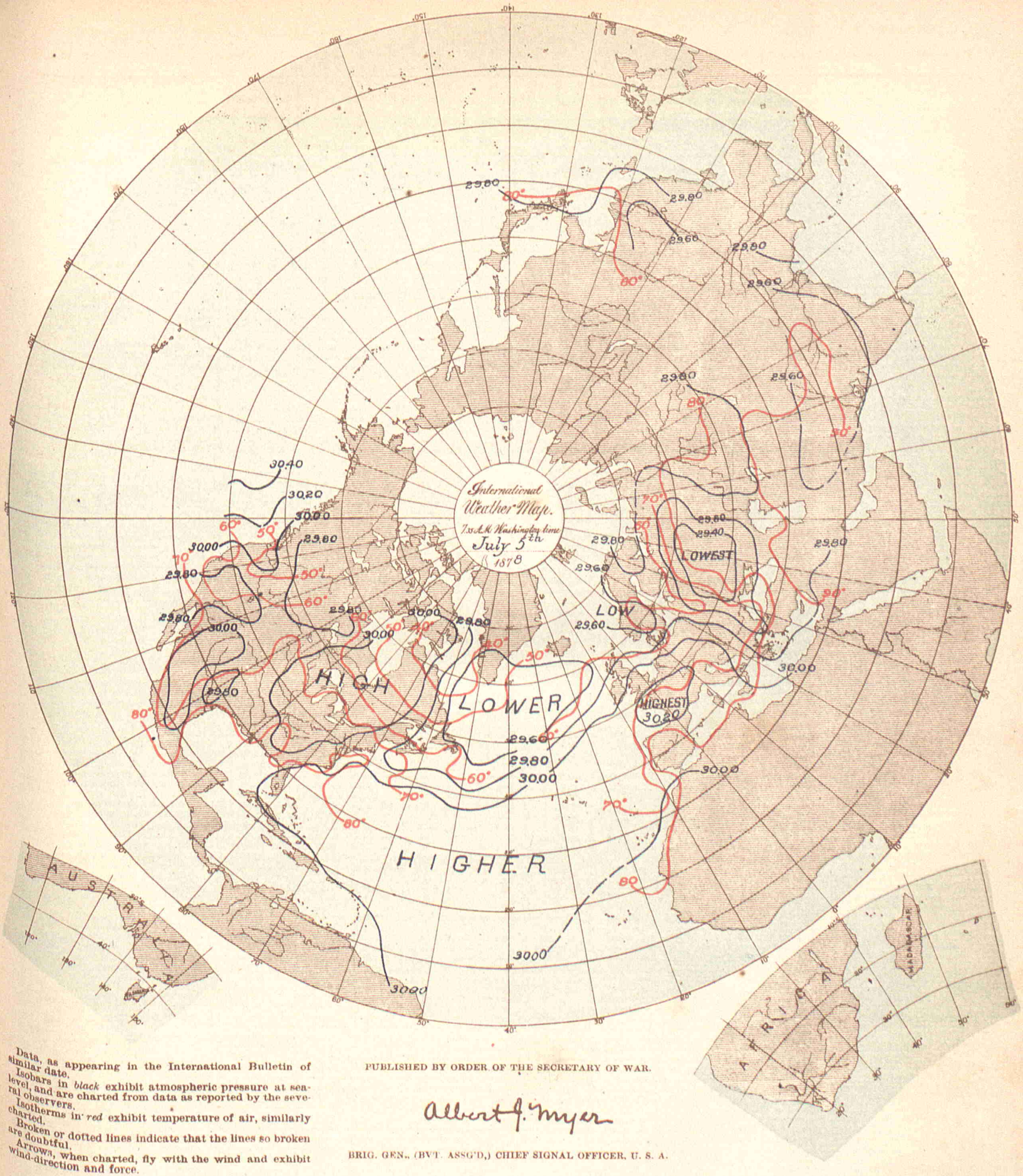
Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.71	754.6	29.80	756.9	59.6	15.3	.....	WNW	10	4.5	.....	.....	10	.....	.....	0.090	2.29	Raining.....	W. Boswell.
Ardrossan	29.84	757.9	29.86	758.4	60	15.6	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	Drizzling...	George Carrick.
Armagh, Observatory	.....	.....	29.92	760.0	67.1	19.5	.....	SSW	17	7.6	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.01	762.2	69.1	20.6	.....	SW	19	8.5	.....	.....	7	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.96	761.0	69.0	20.6	.....	SW	.....	.....	2-3	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.58	751.3	29.98	761.5	68.2	20.1	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.97	761.2	84	28.9	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.06	763.5	73.0	22.8	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.08	764.0	71.0	21.7	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.00	762 0	30.13	765.3	67.2	19.6	.....	NE	.....	.....	4	.....	4	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.71	729.2	30.16	766.1	63.0	17.2	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	29.87	758.7	29.89	759.2	68	20.0	.....	WSW	.....	.....	5	.....	8	.....	.....	.....	.....	D. cloud....	J. Mac Gowan.
Dover	30.10	764.5	30.15	765.3	63	17.2	.....	WSW	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded..	*J. Costello.*
Eccles, (near Manchester)	.....	.....	29.99	761.7	67.5	19.7	.....	SW	3.2	1.4	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Falmouth, *Observatory*	29.96	761.0	30.19	766.8	66.7	19.3	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.72	704.1	30.01	762.2	67.7	19.8	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.76	755.9	29.99	761.7	73	22.8	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.89	759.2	64	17.8	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.02	762.5	30.07	763.8	73.0	22.8	.....	E	.....	.....	6	.....	6	.....	.....	.....	.....	Gloomy.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.66	753.4	29.86	758.4	62.0	16.7	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.02	762.5	30.03	762.7	71	21.7	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.95	760.7	30.12	765.0	69.7	20.7	.....	WSW	.....	.....	3	.....	9	.....	.....	.....	.....	N'ly overcast	The Staff, for G. B. Airy.
Guernsey	30.01	762.2	30.23	767.8	66	18.9	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.19	766.8	69	20.6	.....	SW	.....	.....	6	.....	2c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.97	761.2	30.02	762.5	64	17.8	.....	SSW	.....	.....	6	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.97	761.2	30.26	768.6	65.0	18.3	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	J. Fisher.
Kew, Observatory	.....	.....	30.12	765.0	68.0	20.0	.....	WSW	14	6.3	.....	.....	9	.....	.....	.....	.....	D. clouds....	The Staff.
Kingstown	29.96	761 0	29.98	761.5	71	21.7	.....	SSE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	30.04	763.0	68.0	20.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	*Overcast.....*	*Wm. J. Harrison, F.G.S.*
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	79.0	26.1	.....	NW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Sgt. Hewitt, A. H. C.
Nairn	29.66	753.4	29.75	755.6	65	18.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.04	763.0	86.5	30.3	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.84	757.9	30.02	762.5	76.0	24.4	.....	SW	.....	.....	3	.....	7k;d	.....	SW	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29 54	750.3	30.05	763.3	65.9	18.8	.....	SW	.....	.....	5-6	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.12	765.0	69	20.6	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	H.E. Bellamy.
Plymouth	30.10	764.5	30.18	766.6	68.5	20.3	.....	W	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	30.00	762.0	30.05	763.3	64	17.8	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty.....	W. Kennedy.
Saint Ann's Head	29.95	760.7	30.11	764 8	64	17.8	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.79	756.7	57.2	14 0	.....	W	11	4.9	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.64	752.8	68.4	20.2	.....	N	.....	.....	2	.....	8	.....	.....	Blank	Blank	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.76	755.9	30.03	762.7	75.0	23.9	.....	SW	.....	.....	6	.....	7	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth *Rectory*	29.88	758.9	29.90	759 4	61.7	16.5	90	W	.....	.....	3	.....	10	.....	.....	0.290	7.37	Overcast.....	C. Edith Redford.
Stonyhurst, Observatory	29.60	751.8	30.00	762.0	68.2	20.1	.....	WSW	.....	.....	5	.....	8	.....	.....	.....	.....	Squally.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.87	753.6	29.70	754.4	62	16.7	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.90	759.4	30.14	765.5	65.5	18.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.76	755.9	58	14.4	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	John Trotter.
Truro, Royal Institution	.....	.....	30.20	767.1	69	20.6	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.96	761.0	62.7	17.1	.....	S	43	19.2	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good *Hope, Obs'y*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.74	755.4	50.0	10.0	86	NW	.....	.....	2	.....	7k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.77	756.1	29.96	761.0	74.3	23.5	70	WSW	8.5	3.8	.....	1	2	.....	.....	0	0	Fine.....	C. Meldrum.
Melbourne, Observatory	30.13	765.3	30.22	767.6	46.1	7.8	89	W	6	2.7	.....	.....	4	.....	.....	0.03	0.8	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 51° 30′ W. 9° 5′	.....	.....	30.02	762.5	62	16.7	.....	SW	.....	.....	6	.....	10	.....	.....	5*	SW	Misty.....	*Capt. W. Watson.*
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, Arsuk Fiord, Greenland	.....	.....	29.56	750.8	37	2.8	.....	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	Foggy.....	Capt. Alex Simpson.
Barque Virginia, N. 47° 5′, W. 59° 15′	.....	.....	29.70	754.4	58	14.4	.....	W	.....	.....	4	.....	9	.....	.....	3	¾NW	Misty.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

Dr. Hazlitt & Walton, 22 & 24 Devonshire St., Boston.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7			70.2	21.2	91	NE			2	2c	7s;hz	E		Inap.	Inap.		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.59	751.6	29.64	752.8	56.1	13.4	94	WNW			4		10					Raining	
Farõe	29.69	754.0	29.71	754.5	60.1	15.6	88	W			6		9						
Godthaab, (Greenland)	29.52	749.9	29.57	751.0	48.4	9.1		Calm			0		6						
Stykkisholm, (Iceland)	29.69	754.0	29.73	755.1	54.3	12.4	77	Calm			0		0						
Thorshavn, (Farõe)	29.75	755.6	29.78	756.5	52.2	11.2	81	Calm			0		5						
Vestervig	29.48	748.7	29.65	753.0	58.6	14.8	96	NW			6		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.71	754.5	30.26	768.5	66.2	19	41	SW			1		2			0	0	Slightly cl'dy	Colignon, Director.
Amiens, Normal School	30.06	763.4	30.17	766.4	77.4	25.2	48	NW			2		2		NW	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	30.08	764.1	30.16	766.1	78.3	25.7	34	NNE			3		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.68	753.9	30.24	768.0	70.7	21.5	42	E			2		5n		E	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.97	761.1	30.24	768.2	71.2	21.8	51	W			3		5		NW	0	0	Cloudy	Normal School.
Besançon	29.37	746.1	30.25	768.3	67.1	19.5	51	SE			2		1		E	0	0		Normal School.
Bourg-en-Bresse	29.37	746.0	30.31	769.8	69.8	21	53	N			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.67	753.7	30.26	768.7	70.2	21.2	53	N			1		k		N	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.95	760.7	30.19	766.9	75.2	24.0	58	SW			1		1k		SW	0	0		The Staff.
Carcassonne, Normal School	29.76	755.9	30.16	766.0	82.0	27.8	29	W			2		0			0	0	Clear	Septombre, Director.
Caen																			Normal School.
Chartres, Normal School	29.60	751.8	30.15	765.7	72.0	22.2	91	W			1		5		NE	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.90	759.5	30.21	767.4	73.8	23.2	50	Calm			0		5ck			0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	29.90	734.0	30.23	767.7	69.8	21.0	49	NE			1		2			0	0	Slightly cl'dy	Alluard, Director.
Commercy, Normal School	29.37	746.0	30.23	767.8	67.6	19.8	57	W			4		2		E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.07	738.3	30.21	767.3	81.0	27.2	16	S			2		0			0	0	Clear	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	30.05	763.2	30.20	768.0	77.0	25.0	47	NW			1		2		NW	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.94	760.4	30.24	768.0	72.5	22.5	76	SW			2		5		W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.34	745.3	30.25	768.3	65.1	18.4	50	N			1		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.15	765.8	30.25	768.3	70.5	21.4	51	S			1		0			0	0	Clear	T. Carré, Director.
Mâcon, Normal School	29.60	751.7	30.24	768.0	66.4	19.1	64	N			4		1		N	0	0	Clear	M. Galzin, Director.
Mirecourt	29.20	741.7	30.23	767.7	63.9	17.7	50	WNW			1		2		ESE	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.96	761.0	30.16	766.0	79.9	26.6	26	NE			6		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.82	757.3	30.19	766.7	77.0	25	46	N			2		1		N	0	0	Almost clear	Bernard, Director.
Paris, Observatory	29.99	761.7	30.23	767.7	71.4	21.9	44	W			2		5		W	0	0	Cloudy	National Observatory.
Privas	29.15	740.4	30.19	766.8	81.5	27.5	41	NW			6		1		NW	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.22	767.5	30.25	768.3	79.3	26.3	34	E			2		1		E	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.13	765.4	30.22	767.5	74.1	23.4	44	W			2		0			0	0	Clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.08	738.6	30.12	765.1	75.2	24	67	SW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.59	751.5	30.32	770.2	71.4	21.9	66	ESE			4		2		N	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.87	758.7	80.6	27										0.20	5.		L'Abbé Marchési.
Lyons			30.29	769.3	70.3	21.3	48						1			0	0		L. Jays.
Marseilles, Observatory			30.11	764.9	76.8	24.9	30	WSW			1–2		0			0	0	Clear	The Staff.
Mont-Louis	25.06	636.4	30.37	771.4	64.6	17.8	39	ENE	7.4	3.33			0			0	0		M. Cave.
Nice			30.14	765.6	74.3	23.5	54	S			1		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.94	760.5	30.22	767.5	72.1	22.3	47	W			2		2		W	0	0		Marié Davy, Director
Perpignan			30.19	766.8	70.1	24.5	28	SE	7.4	3.33			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.78	578.5			60.4	15.8		N			1		0			0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	30.07	763.6	30.23	767.8	72.0	22.2	53	WNW			1		1		WNW	0	0		E. Renou.
Toulouse, Observatory	29.51	749.6	30.24	768.1	74.1	23.4	28	NNW			1		0			0	0		The Staff.
Tours	30.04	762.9	30.23	767.9	73.8	23.2	44	W			1		0			0	0		C. Marquet.
Versailles, (near Paris)			30.23	767.8	74.8	23.8	45	NW			1		7			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.67	753.6	29.69	754.2	78.6	25.9	92	SSE	13.2	5.9			7ck;k	W		0.201	5.1	Cloudy	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.3 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.26	743.2	30.11	764.7	63.5	17.5	66	WNW	.....	.....	6	.....	8	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.76	755.9	29.93	760.2	64.4	18.0	66	SW	.....	.....	2	.....	10	.....	.....	0.331	8.4	Raining	Prof. Arndt.
Breslau	29.44	747.8	29.97	761.2	61.5	16.4	45	NW	.....	.....	5	.....	4	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.75	755.7	30.17	766.4	66.9	19.4	63	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	Albert Senz.
Cassel	29.41	747.0	30.02	762.5	65.5	18.6	67	W	.....	.....	4	.....	8	W	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.90	759.5	30.07	763.6	68.5	20.3	65	SW	.....	.....	5	.....	9	.....	.....	0	0	.....	Director Lose.
Emden	29.95	760.7	29.99	761.7	61.0	16.1	74	WNW	.....	.....	6	.....	10	.....	.....	0.130	3.3	.....	Prof. Prestel.
Frankfort on the Main	29.83	757.6	30.19	766.7	66.2	19	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.81	731.7	30.23	767.8	63.0	17.2	62	SW	.....	.....	2	.....	5	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.79	756.7	29.86	758.5	60.3	15.7	99	WSW	.....	.....	5	.....	10	.....	.....	0.169	4.3	Raining	Captain F. Hegemann.
Kiel	29.74	755.3	29.75	755.7	59.9	15.5	94	W	.....	.....	6	.....	6	.....	.....	0.338	8.61	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.68	753.9	29.76	755.9	62.6	17.0	57	NW	.....	.....	6	.....	2	.....	.....	Inap.	Inap.	.....	Prof. E Luther.
Köslin	.....	.....	29.87	758.8	59.9	15.5	.....	W	.....	.....	3	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.62	752.3	30.04	762.9	61.3	16.3	78	WSW	.....	.....	5	.....	10	.....	.....	0.319	8.1	Raining	Prof. Bruhns.
Memel, Naval School	29.67	753.6	29.72	754.8	60.4	15.8	65	NW	.....	.....	5	.....	1lcs	.....	.....	.....	.....	Squally	Reinbrecht and Skalweit.
Neufahrwasser	29.80	756.8	29.81	757.2	60.8	16.0	61	NW	.....	.....	4	.....	10	.....	.....	0.043	1.1	.....	A. Lothes.
Posen	29.66	753.4	29.95	760.6	63.7	17.6	49	NW	.....	.....	3	.....	8	.....	.....	0.205	5.2	.....	Dr. Magener.
Strassburg (in Alsace)	29.70	754.3	30.24	768.0	69.3	20.7	49	SW	.....	.....	2	.....	8	NNW	.....	0.001	0.02	.....	Astronomical Observatory.
Stuttgart	29.25	742.9	30.17	766.3	66.2	19.0	48	W	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.52?	749.8?	30.04?	763.1?	71.4	21.9	53	SW	.....	.....	6	.....	9	.....	.....	0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.67	728.3	30.13	765.4	61.7	16.5	56	W	2	1	.....	.....	10	.....	.....	0.248	6.3	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.79	756.6	29.83	757.6	57.6	14.2	87	S	.....	.....	5	.....	10	.....	.....	0.051	1.3	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.33	745.0	29.71	754.5	83.1	28.4	.....	SW	.....	.....	4.5	.....	k	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

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

Kurrachee	29.44	747.7	29.49	748.9	88.9	31.6	70	WSW	25?	11.2?	.....	.....	9	.....	WSW	0	0	D. clouds	
Deesa	29.04	737.6	29.51	749.5	85.0	29.4	70	N	.....	.....	.....	.....	9	E	....	0.23	5.8	Showery	
Bombay	29.56	750.8	29.60	751.8	78.7	25.9	98	SSW	18	8.0	.....	.....	10	.....	WSW	6.04	153.4	Raining	
Poona	27.65	702.2	29.66	753.3	72.0	22.2	83	W	.....	.....	.....	.....	10	.....	W	0.32	8.1	Drizzling	
Lahore	28.76	730.6	29.49	749.1	86.0	30.0	76	NE	8.7	3.9	.....	.....	8	.....	.....	0.39	9.9	Rainy	
Belgaum	27.22	691.4	29.77	756.2	70.9	21.6	95	W	7	3.1	.....	.....	10	.....	W	1.55	39.4	Gloomy	
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Roorkee	28.64	727.4	29.50	749.4	94.8	34.9	45	SE	7.9	3.5	.....	.....	4	.....	.....	0	0	.....	
Agra	28.94	735.1	29.49	749.0	89.7	32.1	73	N	8	3.6	.....	.....	.....	.....	NE	0	0	.....	
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nagpur	28.54	724.8	29.57	751.1	78.6	25.9	87	SW	8.3	3.7	.....	.....	10	.....	NE	0.73	18.5	Overcast	
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Lucknow	29.11	739.4	29.47	748.4	95.1	35.1	53	E	4.0	1.8	.....	.....	7	.....	NE	0	0	D. clouds	
Allahabad	29.17	740.8	29.47	748.5	88.7	31.5	79	ESE	4.6	2.1	.....	.....	7	.....	E	0	0	D. clouds	
Patna	29.36	745.7	29.54	750.2	84.4	29.1	87	E	2.7	1.2	.....	.....	10	E	E	0.26	6.6	Overcast	
Hazaribagh	27.58	700.5	29.56	750.9	80.6	27.0	81	SE	12.9	5.8	.....	.....	10	NW	SE	0.38	9.6	Showery	
Cuttack	29.58	751.2	29.66	753.3	86.3	30.2	70	SW	5.7	2.6	.....	.....	5	.....	.....	0.02	0.5	D. clouds	
Calcutta (Alipore)	29.62	752.4	29.64	753.0	82.3	27.9	88	S	10	4.5	.....	.....	8	S	.....	0	0	D. clouds	
Goalpara	29.31	744.5	29.70	754.3	82.3	27.9	85	Calm	2.5	1.1	.....	.....	9	.....	.....	0.75	19.0	D. clouds	
Chittagong	29.71	754.7	29.80	757.0	80.5	26.9	85	S	12.4	5.5	.....	.....	10	.....	.....	0	0	Overcast	
Sibsagar	29.37	746.0	29.70	754.4	85.2	29.6	74	NW	2.9	1.3	.....	.....	10	W	W	0.07	1.8	Gloomy	
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Jubbulpore	28.18	715.8	29.53	750.2	80	26.7	87	SSW	3.6	1.6	.....	.....	10	.....	.....	1.50	38.1	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal, and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.68	753.8	30.08	763.9	72.1	22.3	48	SW	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.96	761.0	30.07	763.7	72.7	22.6	31	WSW	7.4	3.3	.....	.....	3	N	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.87	758.7	30.06	763.4	75.7	24.3	28	SW	0	0	.....	.....	1	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.76	730.6	30.03	762.7	75.2	24.0	37	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.57	751.1	30.07	763.7	78.4	25.8	.....	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.21	741.8	30.08	763.9	73.9	23.3	29	S	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.20	716.3	30.04	763.0	70.5	21.4	27	N	.....	.....	4	.....	1	N	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.92	759.9	30.13	765.4	76.1	24.5	37	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.96	760.9	30.12	765.1	73.4	23.0	42	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.73	755.2	30.04	762.9	73.8	23.2	24	NW	.....	.....	6	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.86	758.4	30.11	764.7	75.6	24.2	19	SW	.....	.....	2	.....	0	.....	.....	0.004	0.1	.....	Cav. F Meucci.
Leghorn	30.03	762.8	30.11	764.9	72.5	22.5	53	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.08	764.1	30.13	765.3	70.9	21.6	41	N	.....	.....	1	.....	1	.....	.....	0.205	5.2	.....	Prof. Luigi Guidi.
Urbino	28.61	726.6	30.11	764.7	67.3	19.6	34	NW	.....	.....	1	.....	0	.....	.....	0.559	14.2	.....	Prof. P. Serpieri.
Grosseto	30.02	762.4	30.12	765.1	76.6	24.8	36	NNE	.....	.....	2	.....	2	SE	.....	0.220	5.6	.....	Avv. P. Ponticelli.
Rome	29.89	759.3	30.07	763.6	76.1	24.5	29	N	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.87	758 8	30.07	763.7	77.4	25.2	32	NE	.....	.....	2	.....	5	NE	.....	0.256	6.5	.....	Prof. L. Palmieri.
Lecce	29.63	752.5	29.87	758.7	69.4	20.8	61	NNW	24.8	11.1	.....	.....	5	N	.....	0.268	6.8	.....	Prof. C. De Giorgi.
Cagliari	29.91	759.6	30.09	764.3	76.5	24.7	44	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.2	29.95	760.6	74.8	23.8	69	SW	9.8	4.4	.....	.....	7	.....	.....	0.114	2.9	.....	Prof. F. D. Conti.
Palermo	29.83	757.6	30.08	763.9	72.9	22.7	42	N	16.1	7.2	.....	.....	7	NW	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.87	758.6	29.94	760.5	72.1	22.3	57	NE	.....	.....	6	.....	4	NW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.51	749.5	30.07	763.6	71.6	22.0	42	ESE	4.9	2.2	.....	.....	3	SW	.....	0.126	3.2	.....	Prof. F. Brioschi.

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

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.63	752.6	29.83	757.7	73.7	23.2	92	SE	1.4	0.6	.....	.....	10s	.....	.....	0.003	0.08	Cloudy.....	
Tokei (Yeddo)	29.64	752.8	29.71	754.6	74.0	23.3	97	SSW	12.6	5.6	.....	.....	10n;s	.....	S	0.770	19.56	Raining.....	The Observatory.
Tokei (Yeddo) University	29.58	751.3	29.68	753.8	74.3	23.5	98	S	13	5.8	.....	.....	9n	.....	.....	0.95	24.1	Showery.....	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	24.98	634.5	29.92	760.1	58.1	14.5	85	NE	0.9	0.4	.....	0	4	.....	N	0	0	⅜ cloudy.....	Prof. L. Perez.
Guanajuato	23.64	600.4	29.76	756.0	65.3	18.5	67	NE	.....	.....	.....	0	8	.....	.....	0	0	Hazy.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	67.8	19.9	57	NW	0.9	0.4	.....	0	0	.....	.....	0	0	Fair.....	Prof. M. Leal.
Mexico	23.05	585.5	30.02	762.6	59.0	15.0	72	N	8.5	3.8	.....	0	10np	.....	.....	0	0	Covered.....	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	65.3	18.5	71	N	0.9	0.4	.....	1c	0	E	.....	0	0	Clear.....	M. V. de Leon, M. E.
Puebla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.79	756.7	29.80	757.0	76.1	24.5	96	SE	5.1	2.3	.....	0	10n	.....	N	2.91	74.0	Rainy.....	Prof. F. R. Bayly.
San Luis Potosi	24.57	613.1	30.06	763.4	64.4	18.0	74	E	0.9	0.4	.....	1cs	2n	W	E	0	0	Clear.....	G. Barroeta, M. D.
Vera-Cruz	29.77	756.2	29.80	756.9	77.0	25.0	88	NNW	27.3	12.2	.....	0	10n	.....	NE	5.33	135.4	Threatening	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	90	E	5.1	2.3	.....	0	3	.....	E	0	0	Clear.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.17	588.6	29.90	759.6	55.8	13.2	69	N	17.9	8.0	.....	0	8	.....	E	Inap.	Inap.	Rainy.....	Prof. P. Spina. [M.M.D.D
Morelia	23.98	609.0	.....	.....	62.6	17.0	57	E	0.9	0.4	.....	2c	0	S	.....	0	0	Clear.....	M. Tena, F. L. Paramo,
Durango	24.32	617.8	30.14	765.5	67.0	19.4	91	N	0.9	0.4	.....	0	10k	.....	.....	Inap	Inap.	Covered.....	M. V. de Leon, C. E.
Colima	28.25	717.6	29.86	758.5	79.7	26.5	84	.....	.....	.....	.....	.....	10n	.....	.....	0	0	Covered.....	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,831 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.11	764.9	30.11	764.9	67.6	19.8	.....	WSW	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	29.90	759.4	29.95	760.8	63.0	17.2	.....	W	.....	.....	5	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.98	761 5	29.98	761.5	64.8	18.2	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.02	762.6	30.02	762.6	67.5	19.7	75	WSW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.02	762.6	30.07	763.8	66.4	19.1	74	WSW	.....	.....	5	.....	8	.....	.....	0.020	0.5	Very cloudy	H. v d Bruk.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.59	751.6	29.65	753.0	57.6	14.2	72	W	13.4	6.0	.....	.....	3	.....	.....	0.039	1.0	.....	.....
Brönö	29.56	750.9	29.60	751.9	53.6	12.0	75	NE	4	2	.....	.....	5	.....	.....	0.039	1.0	.....	.....
Christiania	29.37	746 0	29.51	749.6	66.9	19.4	53	SSW	9	4	.....	.....	9	.....	.....	0	0	.....	.....
Tromsö	29.57	751.1	29.61	752.2	53 2	11.8	67	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	.....

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

PORTUGUESE SERIES.

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

Angra, (Azores)	29.90	759.5	30.09	764.3	69.8	21.0	91	S	5.6	2.5	.....	.....	8	.....	.....	0.709	18.0	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.6	30.03	762.8	93.2	34.0	12	ESE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	762.9	30.12	765.1	79.8	26.2	67	W	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	755.0	30.07	763.8	81.0	27.2	40	WSW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.08	764.0	30.15	765.7	78.8	26.0	76	SSW	8.7	3.9	.....	.....	5	.....	.....	0.205	5.2	.....	

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

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 5° 5′, E. 9° 34′	.....	.....	.....	
Rio Douro, S. 25° 58′, E. 32° 37′	1	.....	Blue sky	A. J. de Mattos, Com'd't
Sado, Porto Praya, Cape Verde Islands	4	1	E	D. clouds	J. T. d'Oliveria, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	2	E	D. clouds	L. Ribeiro da Costa, Com'd't.
Tejo	2	SSW	D. clouds	F. Texeira da Silva, Com'd't.
	1	.....	Blue sky	E. Ivos do Rio.
	.....	.....	.....	
	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.32	744.6	29.72	755.0	66.0	18 9	44	NNW	22	10	.....	.....	5k	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Wilna	29.13	739.8	29.54	750.3	54.5	12.5	89	NNW	16	7	.....	.....	10	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.41	747.1	29.65	753 1	59.0	15.0	68	NNE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.60	751 9	29.62	752 3	58.1	14.5	75	N	9	4	.....	.....	9n;s	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.63	727.1	29.22	742.3	65.3	18.5	75	S	27	12	.....	.....	10n;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.45	748.0	29.52	749.8	81 0	27.2	44	WSW	13	6	.....	.....	5ck	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.54	750.2	29.56	750.7	79.2	26.2	90	SSE	9	4	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.00	736.6	29.51	749.5	83.7	28.7	43	S	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.24	742.6	29.43	747.4	89.2	31.8	37	SSW	18	8	.....	.....	8n	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.76	756.0	29.76	756.5	55.2	12.9	80	WNW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.37	720.7	29.69	754.1	92.3	33.5	32	E	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.72	755.0	29.64	752.9	87.8	31.0	46	SSW	18	8	.....	.....	3k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.40	746.8	29.65	753.1	87.1	30.6	44	NE	2	1	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.88	733.5	29.75	755.6	89.1	31.7	31	SE	7	3	.....	.....	3cs;ck;k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.46	748.3	29.68	753.9	89.8	32.1	44	NNE	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.10	713.8	29.66	753.4	93.4	34.1	34	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.38	746.3	29.87	758.8	76.8	24.9	27	NNE	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.61	752.0	29.89	759.1	72.1	22.3	72	SSE	4	2	.....	.....	4	.....	.....	Blank	Blank	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.47	748.6	29.61	752.2	83.7	28.7	63	S	2	1	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	30.04	763.0	30.14	765.6	76.5	24.7	60	S	3.0	1.33	.....	5ck	2	W	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.07	763.8	30.13	765.2	82.0	27.8	54	E	1.4	0.62	.....	.....	.....	.....	.....	0	0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	691.9	.....	.....	78.8	26 0	42	NE	4.6	2.05	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.94	709.6	30.03	762.7	89.4	31.9	28	S	3.0	1.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	30.01	762.3	30.16	766.0	82.8	28.2	52	E	5.4	2.42	.....	1	1	SW	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.20	741.6	30.04	763 1	85.6	29.8	53	SW	5.3	2.30	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	84.7	29.3	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.3	30.03	762.7	84.0	28.9	34	ESE	41.9	18.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	83.1	28.4	86	SE	7.4	3.33	.....	2k	4k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.75	755.7	29.79	756.7	56.8	13.8	.....	S	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.67	753 7	29.72	755.0	58.6	14.8											0	.....	
Hernosand	29.56	750.7	29.61	752 0	63.3	17.4											3.0	.....	
Stockholm	29.47	748.6	29.65	753.1	64.8	18.2											0	.....	
Wisby	29.66	753.4	29.72	754.9	61.2	16.2											0	.....	
Sub-Series.																			
Upsala	29.54	750.4	29.62	752.3	58.6	14.8											1.77	Raining	Dr. Hildebrandsson.

Note.—The origin ls give the wind-force by the scale 0 to between the amount of pper and lower clouds. The rain-fall ls, or in general terms; no distinction g day.

Furnished by the c öperation of Professor R. Wolf r E. Plantamour, Director of the

Geneva	28.83	732.2	30.23	767.8	62.6	17.0											0	Clear.....	The Observatory.
Zurich	28.62	727.0	30.22	767.6	66.2	19.0											0	Bright.....	The Observatory.

Note.—At Geneva the correspon ling departures from the n lt.; Relative Humidity, —ll per cent.

Note.—The rain-fall is measurec at Zurich at 7 a. m. on the ling but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness wit r in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or

Furnished by the coöperation of A. Coumbary, Effendi, Superin l of Professor C. V. A. Van Dyck,

Constantinople	.....	.....	29.68	753.8	68.0	20.0											18.0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....											.....	.....	
Valona	.....	.....	29.97	761.2	73.0	22.8											0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.66	753.4	29.78	756 3	91.0	33 3											0	Blue sky.....	Prof. C. V. A. Van Dyck.
	.....	.....	.....	.....	.....	.....											.....	.....	
	.....	.....	.....	.....	.....	.....											.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, l meters per second;) the weather in general terms as published, except Beirut by the Beaufort nota..... he distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.80	756.9	29.87	758.7	63.9	17.7	55	N	13	5.8	.....	0	0	.....	.....	0	0	Fine.....	Hon. J. Ferguson.
Brockville, Ontario	29.75	755.6	30.03	762.7	78	25.6	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	W. R. Bigg.
*Chatham, N B	29.82	757.4	29.88	758.9	65	18.3	56	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	29.76	755.9	29.80	756.9	63	17.2	62	N	16	7.2	.....	0	2s	.....	Calm	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.85	758.2	30.04	763.0	69.2	20.7	83	SW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	62	16.7	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.98	761.5	54.2	12.3	100	Calm	.....	.....	.....	10cs	0	.....	.....	0	0	Cloudy.....	W. H. Bevis.
*Father Point, Quebec	29.97	761.2	29.99	761.7	55	12.8	68	N	18	8.0	.....	8c	2ks	N	Calm	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	29.83	757.7	29.89	759.2	68.1	20.1	47	N	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.19	741.4	29.98	761.5	68	20.0	95	S	8	3.6	.....	2c	Haze	S	S	0	0	Fair.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.04	737.6	30.09	764.3	74	23.3	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.61	752.1	29.74	755.4	72	22.2	71	NW	9	4.0	.....	.....	10n	.....	NW	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.77	756.1	30.12	765.0	72.7	22.6	85	SW	.....	.....	2	0	0	.....	.....	0	0	Clear.	Geo. Dickson, M. A.
Heart's Content, N. F	29.64	752.8	29.66	753.4	55	12.8	81	SW	.....	.....	1	.....	10	.....	.....	0.03	0.8	Overcast.....	E. Weedon.
*Kingston, Ontario	29.72	754.9	30.04	763.0	78	25.6	66	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	29.64	752.8	29.68	753.9	61.0	16.1	.....	N	10	4.5	.....	8c	0	N	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.81	757.2	30.00	762.0	76	24.4	50	W	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.44	747.8	30.10	764.5	75	23.9	81	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.35	745.5	30.06	763.5	77.7	25.4	70	Calm	.....	.....	0	0	0	.....	.....	0.52	13.2	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.08	764.0	72	22.2	90	N	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	H. Morgan.
Port Hastings, N. S	29.66	753.4	29.71	754.6	62.7	17.1	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.47	748.5	30.09	764.8	74	23.3	86	W	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear.	M. Payne.
*Quebec, Quebec	29.70	754.4	30.01	762.2	66	18.9	50	NE	.....	.....	5	5c	2s	NE	NE	0	0	Fair.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.67	753.6	30.11	764.8	68	20.0	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	W. H. McIntyre.
St. Andrews, N. B	29.80	756.9	29.85	758.2	71	21.7	66	N	1	0.4	.....	2k	2ks	N	.....	0	0	Fair.....	Dr. Gove.
St. John, N. B	29.69	754.1	29.84	757.9	68	20 0	60	N	12	5.4	.....	4ck	0	.....	.....	0	0 -	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.43	747.5	30.11	764.5	71	21.7	84	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	K. Stewart.
Stayner, Ontario	29.34	745.2	30.09	764.3	72	22.2	80	NW	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	R. J. Cole.
Stratford, Ontario	28.84	732.5	30.07	763.8	70.0	21.1	85	N	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	C. J. MacGregor, M. A
*Sydney, C. B	29.66	753.4	29.68	753.9	68	20.0	73	Calm	0	0	.....	5c	0	.....	.....	0.01	0.3	Fair.....	T. C. Hill.
*Toronto, Ontario	29.72	754.9	30.09	764.3	75	23.9	73	N	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear.....	Magnetic Observatory
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.0	16.1	77	SW	.....	.....	.....	4k	4s	.....	.....	Blank	Blank	Cloudy.....	John Delany.

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

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.76	755.9	29.98	761.5	71	21.7	85	N	3	1.3	.....	0	1s	.....	Calm	0.02	0.5	Clear	
Alpena, Michigan	29.46	748.3	30.08	764.0	73	22.8	63	NW	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.95	760.7	29.97	761.2	76	24.4	90	W	6	2.7	.....	8c	0	Calm	.....	0	0	Fair	
Augusta, Georgia	29.82	757.4	30.00	762.0	78	25.6	86	NE	4	1.8	.....	2c	8ks	Calm	SE	1.26	32.0	Cloudy	
Baltimore, Maryland	29.94	760.5	29.98	761.5	80	26.7	66	SE	4	1.8	.....	5c;ck	Haze	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	76	24.4	76	N	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Bismarck, Dakota	28.64	712.2	29.90	759.4	71	21.7	71	SE	16	7.2	.....	2c	0	W	.....	0	0	Clear	
Boise City, Idaho	27.02	686.3	29.90	759.4	52	11.1	72	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boston, Massachusetts	29.76	755.9	29.90	759.4	76	24.4	56	W	7	3.1	.....	2cs	Haze	NW	Calm	0	0	Clear	
Bracketville, Texas	28.78	731.0	29.78	756.4	74	23.3	68	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.01	736.8	29.97	761.2	69	20.6	90	SE	14	6.3	.....	10k	0	S	.....	0	0	Cloudy	
Brownsville, Texas	29.82	757.4	29.88	758.9	80	26.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.37	746.0	30.04	763.0	72	22.2	80	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	41	Calm	.....	.....	0	0	0	.....	.....	0.10	2.5	Clear	
Burlington, Vermont	29.75	755.6	30.00	762.0	72	22.2	62	Calm	0	0	.....	1c	Haze	Calm	.....	0	0	Clear	
Cairo, Illinois	29.88	758.4	30.03	762.7	77	25.0	86	N	3	1.3	.....	8ck	2s	Calm	Calm	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	69	20.6	70	NW	.....	.....	1	0	2ks	.....	W	Blank	Blank	Clearing	
Camp Grant, Arizona	25.14	638.5	29.94	760.5	68	20.0	79	Calm	.....	.....	0	0	2s	.....	Calm	0.04	1.0	Fair	
Camp Verde, Arizona	26.59	675.4	30.08	764.0	72	22.2	62	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.29	693.2	29.86	758.4	35	1.7	80	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.92	760.0	29.92	760.0	77	25.0	91	NE	14	6.3	.....	5k	0	NE	.....	0.21	5.3	Fair	
Cape Henry, Virginia	29.95	760.7	29.98	761.5	76	24.4	82	NE	10	4.5	.....	5c	2s	Calm	0	0	0	Fair	
Cape Lookout, N. Carolina	29.92	760.0	29.94	760.5	77	25.0	91	N	18	8.0	.....	8k	0	N	.....	0.28	7.1	Cloudy	
Cape May, New Jersey	29.95	760.7	29.98	761.5	76	24.4	85	W	10	4.5	.....	5cs	2s	NW	W	0	0	Fair	
Charleston, South Carolina	29.96	761.0	30.02	762.5	80	26.7	87	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Cheyenne, Wyoming	24.00	609.6	29.94	760.5	59	15.0	65	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.41	747.0	30.08	764.0	69	20.6	70	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cincinnati Ohio	29.39	746.5	30.01	762.2	77	25.0	82	NE	6	2.7	.....	1k	0	E	.....	Inap.	Inap.	Clear	
Cleveland, Ohio	29.36	745.7	30.06	763.5	72	22.2	90	N	4	1.8	.....	10k	0	N	.....	0.13	3.3	Cloudy	
Columbus, Ohio	29.28	743.7	30.07	763.3	76	24.4	81	Calm	.....	.....	0	0	2s	.....	Calm	0.10	2.5	Clear	
Conono, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Corsicana, Texas	29.48	748.8	29.93	760.2	72	22.2	90	NE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.52	749.8	30.13	765.3	72	22.2	76	E	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Denison, Texas	29.17	740.9	29.91	760.5	72	22.2	95	NE	3	1.3	.....	.....	10s	.....	NE	0.11	2.8	Cloudy	
Denver, Colorado	24.73	628.1	29.95	760.7	63	17.2	45	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.44	747.8	30.09	764.3	66	18.9	95	NE	7	3.1	.....	.....	Fog	.....	NE	0	0	Foggy	
Dodge City, Kansas	27.44	697.0	29.61	752.8	69	20.6	90	SE	8	3.6	.....	.....	8s	.....	SE	0	0	Cloudy	
Dubuque, Iowa	29.44	748.3	30.14	765.5	71	21.7	75	E	1	0.4	.....	0	Fog	.....	Calm	0	0	Fair	
Duluth, Minnesota	29.48	748.8	30.14	765.5	67	19.4	64	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Eagle Pass, Texas	29.16	740.7	29.87	758.7	76	24.4	91	Calm	0	0	.....	5k	0	S	.....	0	0	Fair	
Eastport, Maine	29.76	755.9	29.82	757.4	67	19.4	74	NW	10	4.5	.....	10k	Haze	W	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.36	745.7	30.04	763.0	73	22.8	85	NE	4	1.8	.....	0	2s	.....	NE	0.09	2.3	Fair	
Escanaba, Michigan	29.55	750.6	30.19	766.8	67	19.4	55	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	84	28.9	54	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.47	646.9	29.53	750.0	69	20.6	56	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Fort Davis, Texas	25.19	639.8	30.15	765.8	66	18.9	64	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.46	748.3	29.97	761.2	72	22.2	100	E	8	3.6	.....	.....	10n	.....	E	0.26	6.6	Light rain	
Fort Griffin, Texas	28.71	729.2	29.92	760.0	74	23.3	86	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.84	757.9	74	23.3	81	NE	2	0.9	.....	0	8s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.88	758.9	29.92	760.0	80	26.7	82	E	8	3.6	.....	.....	10ks	.....	SE	0.30	7.6	Threatening	
Grand Haven, Michigan	29.47	748.5	30.09	764.3	78	25.6	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.39	744.2	30.04	763.0	78	25.6	73	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.83	758.9	29.90	759.4	81	27.2	83	N	10	4.5	.....	1c;k	0	.....	.....	0	0	Clear	
Jacksboro, Texas	28.84	732.5	29.94	760.2	72	22.2	90	SE	6	2.7	.....	.....	10s	W;Calm	SE	0.04	1.0	Cloudy	
Jacksonville, Florida	29.97	761.2	30.00	762.0	80	26.7	82	SW	4	1.8	.....	10k	0	SW	.....	0.04	1.0	Cloudy	
Keokuk, Iowa	29.46	748.3	30.04	763.0	74	23.3	86	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	84	28.9	79	SE	6	2.7	.....	3k;c	1ks	8k;Calm	E	0	0	Fair	
Kittyhawk, North Carolina	29.92	760.0	29.95	760.7	75	23.9	95	NE	18	8.0	.....	2k	0	NE	.....	0	0	Fair	
Knoxville, Tennessee	29.06	738.1	30.02	762.5	77	25.0	65	NE	4	1.8	.....	2cs	0	W	.....	0	0	Clear	
La Crosse, Wisconsin	29.41	746.7	30.11	764.8	71	21.7	85	SW	1	0.4	.....	8k	0	E	.....	0	0	Fair	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	71	21.7	49	SE	1	0.4	.....	2ck	2s	Calm	Calm	0	0	Fair	
Laredo, Texas	29.49	749.0	29.82	757.4	78	25.6	86	Calm	0	0	.....	10k	0	S	.....	0.03	0.8	Cloudy	
Lead City, Dakota	24.73	628.1	.....	.....	65	18.3	63	S	7	3.1	.....	2c	0	S	.....	0	0	Fair	
Leavenworth, Kansas	29.20	741.7	30.01	762.2	74	23.3	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.46	748.3	29.78	756.4	62	16.7	80	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.47	748.5	30.00	762.0	78	25.6	78	N	5	2.2	.....	5c	Haze	SW	Calm	0	0	Fair	
Lynchburg, Virginia	29.31	744.5	29.95	760.7	79	26.1	65	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.48	748.8	30.16	766.1	64	17.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.34	718.8	29.99	761.7	71	21.7	75	S	1	0.4	.....	5ck	0	Calm	.....	0	0	Fair	
Memphis, Tennessee	29.68	753.9	29.98	761.5	76	24.4	86	NE	4	1.8	.....	2c	5s	SW	NE	0	0	Cloudy	
Milwaukee, Wisconsin	29.40	746.7	30.11	764.8	68	20.0	74	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.94	760.5	29.98	761.5	79	26.1	87	S	4	1.8	.....	1c	0	SW	.....	0	0	Clear	
Montgomery, Alabama	29.79	756.7	30.01	762.2	80	26.7	78	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Morgantown, West Virginia	29.02	737.1	30.03	762.7	72	22.2	85	N	4	1.8	.....	.....	10s	.....	N	0	0	Threatening	
Mt. Washington, N. H.	24.92	607.6	30.28	769.1	52	11.1	86	N	40	17.9	.....	8c	Haze	W	Calm	0	0	Fair	
Nashville, Tennessee	29.51	749.5	30.01	762.2	83	28.3	67	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	29.81	757.0	29.95	760.7	80	26.7	70	N	8	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	
New London, Connecticut	29.88	758.9	29.93	760.2	81	27.2	67	Calm	0	0	.....	0	1s	.....	Calm	0.26	6.6	Clear	
New Orleans, Louisiana	29.99	759.4	29.95	761.0	78	25.6	82	Calm	0	0	.....	2k	0	Calm	.....	0.18	4.6	Fair	
Newport, Rhode Island	29.88	758.9	29.92	760.0	76	24.4	77	Calm	0	0	.....	1c	0	N	.....	0	0	Clear	
New York, New York	29.82	757.4	29.99	761.7	77	25.0	72	NE	6	2.7	.....	6c;cs	Haze	W	.....	Inap.	Inap.	Fair	
Norfolk, Virginia	29.92	760.0	29.98	761.5	77	25.0	82	N	9	4.0	.....	5k;cs	0	N;Calm	.....	0	0	Fair	
North Platte, Nebraska	27.11	688.6	29.53	750.3	67	19.4	84	S	24	10.7	.....	5k	0	S	.....	0	0	Fair	
Olympia, Washington Ter.	29.98	761.0	30.01	762.2	48	8.9	93	S	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.94	735.1	29.96	761.0	75	23.9	86	SE	8	3.6	.....	1k	0	S	.....	0	0	Clear	
Oswego, New York	29.74	755.4	30.05	763.3	74	23.3	81	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	29.18	741.2	29.97	761.2	67	19.4	84	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.91	760.5	29.99	761.7	76	24.4	76	N	7	3.1	.....	5cs	0	NW	.....	0	0	Fair	
Phœnix, Arizona	28.57	725.7	.....	.....	86	30.0	65	W	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear	
Pike's Peak, Colorado	17.91	454.9	30.12	765.0	35	1.7	61	SW	32	14.3	.....	8cs	0	W	.....	0	0	Cloudy	
Pioche, Nevada	23.87	606.3	29.64	752.8	58	14.4	17	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.25	742.9	30.02	762.5	71	21.7	95	NW	4	1.8	.....	2k	Fog	N	Calm	2.80	71.1	Fair	
Port Huron, Michigan	29.45	748.0	30.10	764.5	64	17.8	100	NE	6	2.7	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Portland, Maine	29.83	757.7	29.88	758.9	75	23.9	64	NW	6	2.7	.....	8k;hz	Haze	Calm	.....	0	0	Hazy	
Portland, Oregon	29.99	761.7	30.03	764.3	55	12.8	87	NW	1	0.4	.....	.....	10ks	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.63	626.9	30.04	763.0	64	17.8	68	Calm	.....	.....	0	5ck	0	Calm	.....	0	0	Fair	

UNITED STATES SERIES.—CONTINUED

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.01	762.2	30.03	762.7	84	28.9	83	SE	8	3.6	.....	2k	0	SE	.....	0.02	0.5	Clear	
Red Bluff, California	29.48	748.8	29.83	757.7	65	18.3	49	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.46	748.3	30.04	763.0	75	23.9	77	W	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Roseburg, Oregon	29.45	748.0	30.01	762.2	56.0	13.3	90	Calm	0	0	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Sacramento, California	29.74	755.4	29.82	757.4	57	13.9	81	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.49	749.0	30.04	763.0	76	24.4	82	NE	3	1.3	.....	0	0	.....	.....	0.26	6.6	Clear	
St. Marks, Florida	29.96	761.0	29.98	761.5	79	26.1	87	NW	4	1.8	.....	1k	0	Calm	.....	0.14	3.6	Clear	
St. Paul, Minnesota	29.27	743.4	30.07	763.8	70	21.1	84	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.41	645.4	29.74	755.4	68	20.0	38	E	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
San Antonio, Texas	29.22	742.2	29.78	756.4	72	22.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.76	755.9	29.83	757.7	61	16.1	82	E	2	0.9	.....	.....	10s	.....	S	0	0	Cloudy	
Sandusky, Ohio	29.45	748.0	30.10	764.5	71	21.7	95	NE	9	4.0	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	79	26.1	78	N	5	2.2	.....	5c	Haze	NW	Calm	0.02	0.5	Fair	
San Francisco, California	29.80	756.9	29.86	758.4	54	12.2	80	SW	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23 32	592.3	29 86	758.4	60	15.6	44	E	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear	
Savannah, Georgia	29.90	759.4	29.99	761.7	78	25.6	91	SW	2	0.9	.....	.....	10s	.....	Calm	0.46	11.7	Cloudy	
Shreveport, Louisiana	29.75	755.6	29.96	761.0	76	24.4	91	NE	6	2.7	.....	.....	10s	.....	N	0.03	0.8	Cloudy	
Silver City, New Mexico	24.27	616.4	30.21	767.3	64	17.8	83	S	3	1.3	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Smithville, North Carolina	29.98	761.5	30.02	762.5	74	23.3	90	N	4	1.8	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Springfield, Massachusetts	29.86	758.4	29.88	758.9	80	26.7	66	NW	2	0.9	.....	0	Sm'e	.....	Calm	0.07	1.8	Clear	
Stockton, Texas	26.91	683.5	29.91	759.7	65	18.3	26	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.85	758.2	29.90	759.4	74	23.3	72	NW	4	1.8	.....	2ck	Haze	NW	.....	0	0	Hazy	
Toledo, Ohio,	29.43	747.5	30.08	764.0	70	21.2	95	NE	5	2.2	.....	0	8s	.....	NE	0	0	Cloudy	
Tucson, Arizona	27.33	694.2	29.88	758.9	89	31.7	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	77	25.0	95	Calm	0	0	.....	.....	10ks	.....	Calm	0.54	13.7	Cloudy	
Umatilla, Oregon	29.64	752.8	.....	.....	49	9 4	78	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.74	755.4	29.98	761 5	79	26.1	82	E	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.18	614.2	29.66	753.4	51	10.6	65	Calm	0	0	.....	.....	10n	.....	W	0.02	0.5	Light rain	
Visalia, California	29.46	748.3	29.83	757.7	59	15.0	54	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.89	759.2	30.00	762.0	79	26.1	78	S	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	80	26.7	.....	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.92	760.0	30.00	762.0	75	23.9	90	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Winnemucca, Nevada	25.49	647.4	29.85	758.2	54	12.2	38	N	11	4.9	.....	8c	2s	S	Calm	0	0	Cloudy	
Wood's Holl, Mass	29.86	758.4	29.91	759.7	74	23.3	90	W	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.76	730.5	30.00	762.0	70	21.1	85	SE	7	3.1	.....	0	8s	.....	SE	0	0	Cloudy	
Yuma, Arizona	29.48	748.8	29.63	752.6	75	23.9	34	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.77	756.1	29.82	757.4	62.0	16.7	97	NE	19	8.5	.....	.....	10n	.....	NE	2.00	50.8	Raining	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.98	761.5	30.00	762.0	83	28.3	79	SE	1.2	0.5	.....	4c	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	81	27.2	83	Calm	0	0	.....	5c	2s	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	84	28.9	.....	E	5	2.2	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.00	762.0	30.00	762.0	80	26.7	87	E	.....	.....	2	3c	5k	E	.....	0.880	22.35	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3	.....	.....	66.5	19.2	80	Calm	0	0	.....	5cs	3ks	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 8,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,586 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.85	758.2	59	15.0	56	13.3	87	SW	11	4.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Navy Yard, Pensacola, Fla.	30.12	765.0	80	26.7	80	26.7	91	NE	1	0.4	.....	.....	2	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.97	761.2	87	30.6	75	23.9	72	W	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.73*	755.1*	75.4	24.1	74	23.3	95	SW	.....	.....	6	.....	9n;ks	.....	SW	0.80	20.3	.....	.....	Light rain...	
Alliance, Lisbon, Portugal	30.07‡	763.8‡	.....	.....	74	23.3	72	NW	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ashuelot, Nagasaki, Japan	29.88	758.9	77	25.0	75	23.9	90	SW	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Alaska, N. 14° 09', W. 39° 00'	30.12	765.0	80	26.7	80	26.7	78	NE	.....	.....	4	.....	5	.....	NE	.....	.....	Long	NE	Clear.....	
Canonicus, New Orleans, La.	29.98	761.5	54	12.2	76	24.4	91	SE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.	29.97‡	761.2‡	.....	.....	75	23.9	77	N	1	0.4	.....	.....	5	.....	W	0	0	.....	.....	Hazy.....	
Constellation, N. 37° 21', W. 72° 25'	30.04‡	763.0‡	.....	.....	78	25.6	91	NNE	.....	.....	3	.....	2	.....	N&E	.....	.....	Smooth	.....	Clear.....	
Constitution, Havre, France	30.18‡	766.6‡	.....	.....	65	18.3	78	W	.....	.....	2	.....	1	.....	Calm	.....	.....	.....	.....	Clear.....	
Despatch, Prince's Islands, Sea of Marmora	29.62‡	752.3‡	.....	.....	74	23.3	72	NNE	.....	.....	4	.....	8	.....	NE	.....	.....	Mod'ate	NNE	Squally.....	
Enterprise, S. 5° 15' 19", W. 60° 32' 27"	29.93‡	760.2‡	.....	.....	82	27.8	96	Calm	.....	.....	0	.....	8	.....	NE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.	30.09	764.3	80	26.7	79	26.1	78	NE	8.4	3.8	.....	.....	8	.....	NE	0	0	.....	.....	D. clouds.....	
Gettysburg Alexandria, Egypt	29.82‡	757.4‡	.....	.....	78	25.6	??	NNW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear.....	
Guard, Rio de Janeiro, Brazil	30.15	765.8	71	21.7	69	20.6	90	SSE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.12	765.0	.....	.....	70	21.1	90	SE	3.6	1.6	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Marion, Villefranche, France	30.12	765.0	74	23.3	77	25.0	56	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.60	751.8	75	23.9	73	22.8	90	ENE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.72‡	754.9‡	.....	.....	74	23.3	95	SSW	.....	.....	3	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.20†	767.1†	.....	.....	79	26.1	82	E	8	3.6	.....	.....	8	.....	ESE	0.05	1.3	.....	.....	Cloudy.	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	63	17.2	83	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Che-foo, China	29.78	756.4	76	24.4	74	23.3	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Pensacola, Mare Island, California	29.95	760.7	65	18.3	61	16.1	88	SW	3	1.3	.....	.....	1	.....	SW	.....	.....	.....	.....	Clear.....	
Plymouth, New York, N. Y.	30.07‡	763.8‡	.....	.....	76	24.4	82	N	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Ranger, Hong-Kong, China	29.94*	760.5*	.....	.....	86	30.0	83	SW	.....	.....	1-2	.....	4	.....	.....	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.87	758.7	78	25.6	75	23.9	100	N	.....	.....	1	.....	6	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.00‡	762.0‡	.....	.....	78	25.6	82	NW	.....	.....	2	.....	2	.....	NW	0	0	.....	.....	Fair	
St. Louis, League Island, Pa	29.98	761.5	78	25.6	77	25.0	82	N	4	1.8	.....	.....	8	.....	NNW	0	0	.....	.....	Fair	
Supply, Havre, France	30.28	769.1	67	19.4	69	20.6	57	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass.	29.91‡	759.7‡	.....	.....	74	23.3	86	NW	.....	.....	2	.....	2	.....	W	.....	.....	.....	.....	Clear.....	
Trenton, Leghorn, Italy	30.09‡	764.3‡	.....	.....	72	22.2	85	W	.....	.....	1-2	.....	1	.....	W	0	0	.....	.....	Clear.	
Tuscarora, N. 17° 43', W. 101° 40'	29.58	751.3	80	26.7	80	26.7	91	N	.....	.....	2	.....	5	.....	Calm	0	0	Long	SW	Fair.....	
Vandalia, Smyrna, Turkey	29.62‡	752.3‡	.....	.....	84	28.9	50	W	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	29.90‡	759.4‡	.....	.....	76	24.4	60	WNW	3	1.3	.....	.....	2	.....	Calm	0	0	.....	.....	Fair...	
Wyoming, N. 51° 52', W. 25° 58'	29.28	743.7	63	17.2	57	13.9	87	W	.....	.....	6	.....	3	.....	W	.....	.....	Long	W	Showery.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
											Upper	Lower	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From -	From -					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ———, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 32° 29', E. 134° 07'		29.94*	760.5*	80	26.7	100	SW			5		5		SW	2 hours	Mod'ate	SW	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.12*	765.0*				SE			1		4		E				Fair	Capt. Seabury.
S. S. City of Peking, N. 42° 51', W. 140° 41'		30.50†	774.7†	55	12.8	100	N	20	8.9			10		N		Small	N	Foggy	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 7° 23', W. 82° 13'		29.92†	760 0†	81	27.2	96	S			2		7		NNW	Blank	Small	S	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		30.07*	763.8*	72	22.2		Calm			0					0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, Queenstown, Ireland		30.00†	764.3†	66	18.9	94	SW			6		10			2 hours			Gloomy	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 26° 12' E. 122° 54'		29.72*	754.0*	81	27.2	91	SW			3		c		SW	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 50° 1', W. 3° 35'		30.20	767.1	67.0	19.4	69	W			4		2		W			NW	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.24*	768.1*	68	20.0	90	W			5		8		W	Light			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.00	762.0	85	29.4	83	NNW			2		8		N	0			Clear?	Captain Morrison.
S. S. Pennsylvania, N. 48° 30′, W. 21° 09′		30.07†	763.8†	65	18.3	100	SW			4		2		SW	0	Mod.	SW	Clear	Captain Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			
MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°′, W. 66°		30.08*	764.0*	37.5	3.1	64	W			3		10s			0			Cloudy	O. T. Sherman.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

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

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 6, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.01	762.2	69.6	20.9	86	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Dr. Ollive.
Nemours	.....	.....	30.14	765.6	77.9	25.5	62	NE	.....	.....	4	.....	2	.....	.....	0	0	Fair	Michel.
Algiers	.....	.....	30.06	763.5	76.3	24.6	80	N	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Tourillere.
La Calle	.....	.....	30.09	764.3	80.6	27.0	42	E	.....	.....	8	.....	1	.....	.....	0	0	Very fair	Foufrede.
Tunis	.....	.....	30.15	765.8	82.8	28.2	45	E	.....	.....	6	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.24	768.0	84.2	29.0	.....	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.16	766.0	88.5	31.4	21	N	.....	.....	1	.....	0	.....	.....	0.079	2.0	Clear	Herbin.
Tebessa	.....	.....	30.17	766.3	.....	.....	.....	NW	.....	.....	5	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.20	767.1	89.8	32.1	24	SE	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair	Brugniaux.
Laghouat	.....	.....	30.15	765.7	89.6	32.0	27	E	.....	.....	6	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.19	766.7	89.6	32.0	28	E	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

Agram	29.44	747.7	29.97	761.1	74.8	23.8	46	SW	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. Ivan Stozu
Cracow, I. R. Observatory	29.00	736.6	29.74	755.4	67.3	19.6	52	W	.....	.....	3	.....	8	.....	.....	0.331	8.4	.....	Dr. Wierzbiski.
Eperies	28.84	732.5	29.68	753.9	70.2	21.2	44	NW	.....	.....	5	.....	4c;s	.....	S	0.175	4.45	.....	Julius Mikolik.
Gratz	28.74	730.0	29.66	760.9	66.7	19.3	84	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.88	720.9	29.76	756.0	62.6	17.0	67	WNW	.....	.....	4	.....	5	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.66	728.0	29.96	761.0	68.5	20.3	56	W	.....	.....	4	.....	7	.....	.....	0.055	1.4	.....	Prof. C. Wagner
Lemberg	28.64	727.4	29.60	751.8	58.6	14 8	87	NW	.....	.....	2	.....	10	.....	.....	0.406	10.3	.....	Dr. T. Stanecki.
Pola	29.95	760.7	30.06	763.4	77.7	25.4	61	SE	.....	.....	2	.....	3cs	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.30	744.2	29.75	755.6	69.4	20.8	63	W	.....	.....	4	.....	8	.....	.....	0.079	2.0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.98	761.4	30.08	764.0	74.5	23.6	56	NW	.....	.....	1	.....	4	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.23	742.4	29.93	760.1	66.4	19.1	65	W	.....	.....	5	.....	5	.....	.....	0.055	1.4	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet; Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

Arlon	28.61	726.6	30.07	763.7	69.3	20.7	56	SW	.....	.....	4	.....	7	.....	.....	0.102	2.6	Raining	Prof. M. Passau.
Brussels	29.82	757.3	30.01	762.2	69.3	20.7	68	WSW	.....	.....	5	.....	10	.....	W	0	0	.....	Royal Observatory
Furnes	30.05	763.2	30.07	764.8	67.6	19.8	77	SW	.....	.....	5	.....	10	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.91	759.6	30.03	762.8	69.8	21.0	86	SW	.....	.....	4	.....	10	.....	.....	0.043	1.1	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.64	752.8	29.73	755.1	66.7	19.3	.....	W	23	10.3	.....	.....	3	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.85	758.2	29.87	758.7	60	15.6	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	29.94	760.5	65.5	18.6	.....	WNW	7	3.1	.....	.....	5	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.97	761.2	64.5	18.1	.....	W	26	11.6	.....	.....	6	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.00	762.0	64.4	18.0	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.49	749.0	29.88	758.9	67.9	19.9	.....	W	.....	.....	4	.....	9	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.92	760.0	29.95	760.7	84	28.9	.....	SE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.96	761.0	74.0	23.3	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	29.98	761.5	76.6	24.8	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.89	759.2	30.02	762.5	62.2	16.8	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.66	728.0	30.12	765.0	61.0	16.1	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Rain & fog ..	Alexander Watt.
Donaghadee	29.90	759.4	29.92	760.0	66	18.9	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	67	19.4	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.94	760.5	67.2	19.6	.....	W	11.0	4.9	.....	.....	7	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.83	758.9	30.10	764.5	66.3	19.1	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.79	705.8	30.08	764.0	63.0	17.2	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.84	757.7	30.06	763.5	74	23.3	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.96	761.0	64	17.8	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.05	763.3	30.10	764.5	74.0	23.3	.....	E	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.64	752 8	29.647	752.87	61.1	16.2	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.92	760.0	29.92	760.0	73	22.8	.....	W	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.81	757.2	29.98	761.5	72.3	22.4	.....	WSW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	29.90	759.4	30.12	765.0	67	19.4	.....	WSW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.16	766.1	67	19.4	.....	W	.....	.....	0	.....	10m	.....	.....	0.2	5.	Foggy.....	M. P. Moyle.
Holyhead	29.97	761.2	29.99	761.7	67	19.4	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.89	759.2	30.18	766.6	64.6	18.1	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.99	761.7	72.9	22.7	.....	WSW	22	9.8	.....	.....	7	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.96	761.0	29.99	761.7	68	20.0	.....	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.96	761.0	70.4	21.3	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.07	763.8	30.14	765.5	75.0	23.9	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt A. H. C.
Nairn	29.68	753.9	29.76	755.9	65	18.3	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	W. L. Penny.
Nassau, (Bahamas)	.....	.....	30.03	762.7	83.5	28.6	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.78	756.4	29.96	761.0	71.8	22.1	.....	W	.....	.....	4	.....	7c;k;ks	.....	W	0.060	1.52	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.46	748.3	29.97	761.2	69.8	21.0	.....	W	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.01	762.2	72	22.2	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	H.E. Bellamy.
Plymouth	30.01	762.2	30.09	764.3	67.5	19.7	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	30.00	762.0	30.05	763.3	66	18.9	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	30.00	762.0	30.06	763.5	63	17.2	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys.	.....	.....	29.64	752.8	55.8	13.2	.....	SW	30	13.4	.....	.....	10	.....	.....	.....	.....	Raining.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.88	758.9	73.4	23.0	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.70	754 4	29.97	761.2	71.3	21.8	.....	SW	.....	.....	4	.....	5	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	29.86	758.4	29.89	759.2	63.9	17.7	83	W	.....	.....	4	.....	3	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.56	750.8	29.96	761.0	63.4	17.4	.....	WSW	.....	.....	4	.....	7	.....	.....	.....	.....	Squally.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.68	753.9	29.71	754.6	60	15.6	.....	NW	.....	.....	6	.....	5	.....	.....	.....	.....	Squally.....	John Sutherland.
Stratfield Turgiss	29.82	757.4	30.03	762.7	72.9	22.7	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.67	753.6	59	15.0	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	30.12	765.0	68	20.0	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	.....	.....	30.04	763.0	64.5	18.1	.....	SW	20	8.9	.....	.....	7	.....	.....	.....	.....	D. clouds....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.81	757.2	55 0	12.8	88	N	.....	.....	3	.....	9km	.....	.....	0.01	0.3	Light rain...	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.83	757.7	30.02	762.4	71.3	21.8	65	SE	12.0	5.4	.....	1	4	.....	SW	0	0	Fine.....	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	50.0	10.0	73	NW	10	4.5	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach L't-house. (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather	Observer
S. S. Algeria, Liverpool	3	Smooth	Blue sky.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 38° 40' W. 73° 5'	2	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 61° 12', W. 48° 10'	1	.....	Blue sky.....	Capt. Alex. Simpson.
Barque Virginia, N. 45° 35', W. 56° 30'	4	NE	Squally.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.20	665.5	.....	.....	68.9	20.6	89	SE	.....	.....	3	.....	8s	.....	.....	0	0	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.56	750.8	29.61	752.0	57.7	14.3	92	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
Faröe	29.61	752.2	29.63	752.7	62.8	17.1	86	W	.....	.....	6	.....	10	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.65	753.0	30.08	764.1	40.6	4.8	92	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
Stykkisholm, (Iceland)	29.60	751.8	29.64	752.9	54.3	12.4	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.67	753.5	29.70	754.4	55.4	13.0	78	S	.....	.....	2	.....	2	.....	.....	.....	.....	.....	
Vestervig	29.41	747.1	29.58	751.4	56.1	13.4	90	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.64	752.8	30.19	766.8	68.0	20	89	NNW	.....	.....	4	.....	2	.....	SW	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	29.97	761.1	30.07	763.8	76.6	24.8	64	WNW	.....	.....	3	.....	2	.....	NW	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	30.02	762.5	30.10	764.5	83.3	28.5	42	NNE	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.56	750.9	30.11	764.7	76.3	24.6	42	W	.....	.....	1	.....	5n	.....	W	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.83	757.7	30.11	764.7	73.6	23.1	61	W	.....	.....	3	.....	5	.....	W	0	0	Cloudy	Normal School.
Besançon	29.26	743.3	30.13	765.2	73.6	23.1	57	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Normal School.
Bourg-en-Bresse	29.28	743.8	30.22	767.6	79.3	26.3	47	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Normal School.
Bourges, Normal School	29.57	751.0	30.17	766.2	75.2	24	60	W	.....	.....	1	.....	.....	.....	W	0	0	.....	A. Wagner, Director.
Brest, Naval Observatory	29.87	758.6	30.11	764.8	73.0	22.8	60	SW	.....	.....	2	.....	2	.....	SW	0	0	.....	The Staff.
Carcassonne, Normal School	29.69	754.0	30.08	764.0	87.8	31	27	W	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.49	749.0	30.03	762.7	77.4	25.2	76	WNW	.....	.....	3	.....	4	.....	S	0	0	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.71	754.6	30.02	762.4	72.3	22.4	57	Calm	.....	.....	0	.....	5ck	.....	.....	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.76	730.6	30.10	764.4	79.7	26.5	36	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Alluard, Director.
Commercy, Normal School	29.25	743.0	30.10	764.6	70.5	21.4	67	W	.....	.....	2	.....	2	.....	E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.01	736.9	30.15	765.9	82.4	28.0	22	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.97	761.1	30.17	766.4	79.9	26.6	50	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Mouillot, Director.
Le Mans, Normal School	29.83	757.7	30.13	765.3	74.7	23.7	38	W	.....	.....	2	.....	5	.....	NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.32	744.6	30.21	767.2	71.8	22.1	50	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.09	764.3	30.19	766.9	70.9	21.6	66	SW	.....	.....	2	.....	5	.....	W	0	0	½ covered	T. Carré, Director.
Mâcon, Normal School	29.45	747.9	30.11	764.8	75.4	24.1	61	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Galzin, Director.
Mirecourt	29.08	738.5	30.08	764.0	70.3	21.3	50	WNW	.....	.....	2	.....	10	.....	ESE	0	0	Covered	Normal School
Nismes, Normal School	29.88	759.0	30.07	763.8	92.8	33.8	27	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Orleans, Normal School	29.70	754.4	30.07	763.7	82.4	28	40	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bernard, Director.
Paris, Observatory	29.86	758.4	30.09	764.2	76.6	24 8	42	SW	.....	.....	1	.....	5	.....	W	0	0	Cloudy	National Observatory.
Privas	29.06	738.0	30.08	764.0	77.0	25	43	N	.....	.....	2	.....	1	.....	N	0	0	Clear	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.13	765.4	30.17	766.2	85.1	29.5	33	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.03	762.7	30.11	764.8	74.3	23.5	55	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.08	738.6	30.12	765.0	75.2	22.4	67	SSW	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.45	748.0	30.13	765.4	79.9	26.6	68	ENE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.83	757.7	82.4	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.39	10.	.....	L'Abbé Marchès.
Lyons	.....	.....	30.17	766.4	77.9	25.5	50	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	30.08	764.1	73.9	23.3	53	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	The Staff.
Mont-Louis	25.11	637.7	30.42	772.7	68.2	20.1	33	ENE	7.4	3.33	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.14	765.6	73.2	22.9	71	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.81	757.2	30.09	764.2	78.3	25.7	50	WSW	.....	.....	3	.....	4	.....	W	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	30.12	765.0	80.6	27.0	42	SE	11.2	5.00	.....	.....	0	.....	.....	0	0	.....	Dr. Flues.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.80	579.0	.....	.....	62.2	16.8	.....	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.93	760.3	30.10	764.5	77.2	25.1	46	W	.....	.....	1-2	.....	2	.....	W	0	0	.....	E. Renou.
Toulouse, Observatory	29.45	748.1	30.18	766.6	82.2	27.9	24	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	The Staff.
Tours	29.92	760.0	30.12	765.0	79.3	26.3	45	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.11	764.7	78.1	25.6	43	N	.....	.....	3	.....	7	.....	.....	0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.65	753.1	29.67	753.7	82.4	28.0	93	S	5.8	2.6	.....	6ck	.....	.....	.....	0	0	Cloudy	Mare Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,059.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.7	30.01	762.2	74.3	23.5	61	W			5		4	W		0	0		Prof. Dr. Hoh.
Berlin	29.63	752.6	29.80	756.8	67.1	19.5	87	W			1		10			0.122	3.1	Raining	Prof. Arndt.
Breslau	29.30	744.2	29.83	757.6	59.9	15.5	93	W			1		10			0.144	3.66	Raining	Royal University Obs'y.
Carlsruhe	29.65	753.1	30.07	763.6	75.9	24.4	55	SW			2		2			0	0		Albert Senz.
Cassel	29.32	744.8	29.93	760.3	72.3	22.4	61	W			2		8	W		0.008	0.20		Dr. H. Möhl.
Crefeld	29.81	757.1	29.97	761.2	73.0	22.8	61	NW			5		9			0	0		Director Lose.
Emden	29.85	758.2	29.89	759.2	62.8	17.1	77	WSW			2.5		5			0.043	1.1		Prof. Prestel.
Frankfort on the Main	29.70	754.3	30.04	763.1	76.6	24.8		W			4		8			0	0		Physical Society.
Friedrichshafen	28.69	728.6	30.08	764.1	68.7	20.4	62	SW			1		1	WSW		0	0		M. Wilhelm.
Hamburg	29.72	754.8	29.79	756.6	61.9	16.6	100	WSW			5		10n			0.693	17.6	Raining	Captain F. Hegemann.
Kiel	29.69	754.1	29.71	754.5	67.8	19.9	67	W			5		10			0.186	4.69		Prof. G. Karsten.
Königsberg, (Prussia)	29.54	750.4	29.62	752.4	64.8	18.2	60	NW			4		4			0	0		Prof. E Luther.
Köslin			29 72	754.9	61.2	16.2		NW			2		2			0.106	2.7		H. Müller.
Leipsic, Observatory	29.50	749.4	29.81	759.8	69.1	20.6	68	WSW			5		10	W		0.165	4.2	Raining	Prof. Bruhns.
Memel, Naval School	29.58	751.2	29.62	752.4	61.0	16.1	66	NW			3		0					Squally	Reinbrecht and Skalweit.
Neufahrwasser	29.65	753.2	29.67	753.6	62.8	17.1	73	NE			2		9	WNW		0.098	2.5		A. Lothes.
Posen	29.53	750.1	29.82	757.3	62.6	17.0	74	W			2		10			0.291	7.4		Dr. Magener.
Strassburg (in Alsace)	29.55	750.6	30.08	763.9	79.0	26.1	42	W			3		7	NW		0	0		Astronomical Observatory.
Stuttgart	29.09	738.9	29.99	761.7	76.5	24.7	46	W			1		5	W		0	0		Prof. Schoder.
Treves, (Trier)	29 41	747.0	29.93	760.3	74.3	23.5	39	W			6		5			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.56	725.3	29.97	761.3	62.4	16.9	59	W	7	3			8ck		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.66	753.4	29.70	754.4	63.5	17.5	100	W			5		10			0.378	9.6		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.59	751.6	29.97	761.2	81.3	27.4		NW			2.5							⅛ Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.47	748.6	29.52	749.9	89.0	31.7	69	WSW	18?	8.0?			10			0	0	Overcast	
Deesa	29.10	739.2	29.57	751.1	84.1	28.9	82	S					10		S	0.19	4.8	Overcast	
Bombay	29.66	753.2	29.69	754.2	79.5	26.4	96	SW	14	6.3			10		SSW	2.71	68.8	Overcast	
Poona	27.65	702.2	29.65	753.1	74.6	23.7	86	W					10		W	0.20	5.1	Overcast	
Lahore	28.78	731.0	29.50	749.4	89.7	32.1	56	SE	5.2	2.3			2		E	0.07	1.8		
Belgaum	27.28	692.4	29.53	757.8	70.9	21.6	96	WSW	5	2.2			10		WSW	0.55	14.0	Showery	
Bangalore																			
Roorkee	28.65	727.8	29.53	750.1	85.8	29.9	66	E	6.3	2.8			10			0	0	Gloomy	
Agra	28.97	735.8	29.52	749.7	89.7	32.1	77	E	7	3.1					E	0	0		
Trichinopoly																			
Nagpur	28.62	726.9	29.65	753.0	82.6	28.1	73	SW	10.1	4.5			9		E	0.05	1.3	Gloomy	
Madras																			
Lucknow	29.20	741.7	29.57	751.0	84.3	29.1	87	E	2.8	1.2			10			0	0	Overcast	
Allahabad	29.24	742.6	29.54	750.3	90.7	32.6	72	Calm	3.7	1.6			10		E	0.06	1.5	Overcast	
Patna	29.40	746.8	29.58	751.4	84.6	29.2	87	E	1.5	0.7			10	E	E	1.24	31.5	Overcast	
Hazaribagh	27.63	701.8	29.61	752.1	82.6	28.1	75	WSW	9.2	4.1			10		S	0	0	Overcast	
Cuttack	29.65	753.2	29.73	755.2	84.2	29.0	68	SSW	3.2	1.4			8			0.07	1.8	D. clouds	
Calcutta (Alipore)	29.63	752.7	29.66	753.2	82.7	28.2	89	SW	5	2.2			5	SW		0	0	D. clouds	
Goalpara	29.26	743.1	29.64	752.9	81.3	27.4	89	SSW	2.0	0.9			9	S		0.50	12.7	D. clouds	
Chittagong	29.67	753.6	29.76	755.9	80.4	26.9	89	E	7.0	3.1			8			0.09	2.3	D. clouds	
Sibsagar	29.32	744.8	29.66	753.2	86.2	30.1	74	NNW	4.4	2.0			10	W	W	0.12	3.0	D clouds	
Rangoon																			
Jubbulpore	28.26	717.7	29.60	751.8	85.2	29.6	67	SW	6.7	3.0			3	E		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal, and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0 - 10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. nches	illimeters.	Weather.	Observer.
Udine	29.67	753.7	30.07	763.8	73.2	22.9	57	S	2.5	1.1			7			0	0		Prof. Giovanni Clodig.
Padua	29.95	760.6	30.05	763.3	74.7	23.7	47	NW	2.5	1.1			5	W		0	0		Prof. Dott. Lorenzoni
Vicenza	29.86	758.4	30.04	763.1	75.9	24.4	50	E	2.5	1.1			1			0	0		Conte Alm. Da Schio.
Bergamo	28.74	729.9	30.00	762.0	80.6	27.0	49	S			2		1			0	0		Prof. Trionfini Carlo.
Milan	29.55	750.5	30.03	762.7	82.8	28.2		NW			1		1	W		0	0		Prof. Schiaparelli.
Moncalieri	29.15	740.3	30.02	762.4	79.0	26.1	46	ESE	0	0			0			0	0		Prof. P. F. Denza.
Mondovi	28.16	715.3	30.00	762.0	76.3	24.6	56	NW			4		1	WNW		0	0		Prof. D. C. Bruno.
Porto Maurizio	29.94	760.5	30.16	766.0	73.6	23.1	61	SW			2		3	SW		0	0		Prof. L. Vassallo.
Genoa	29.97	761.3	30.14	765.5	73.6	23.1	58	SE	6.3	2.8			0			0	0		Prof. G. M. Garibaldi.
Parma	29.73	755.1	30.04	762.9	79.9	26.6	34	N			2		0			0	0		Prof. P. Pigorini.
Florence	29.87	758.7	30.12	765.0	77.9	25.5	30	W			2		0			0	0		Cav. F. Meucci.
Leghorn	30.05	763.2	30.13	765.3	73.2	22.9	51	W	5.6	2.5			0			0	0		Prof. P. Monte.
Pesaro	30.12	765.1	30.17	766.3	76.1	24.5	62	NE					8			0	0		Prof. Luigi Guidi.
Urbino	28.56	725.3	30.06	763.4	75.0	23.9	32	WSW			1		5			0	0		Prof. P. Serpieri.
Grosseto	30.04	763.1	30.15	765.8	77.7	25.4	34	WSW			4		2	NW		0	0		Avv. P. Ponticelli.
Rome	29.92	760.0	30.09	764.3	80.6	27.0	27	N	4.3	1.9			0			0	0		Prof. P. G. S. Ferrari.
Naples, O. U	29.95	760.7	30.15	765.7	78.3	25.7	61	SSW			4		3			0	0		Prof. L. Palmieri.
Lecce	29.78	756.3	30.02	762.5	71.8	22.1	32	NW	15.4	6.9			1	NNW		0	0		Prof. C. De Giorgi.
Cagliari	29.92	760.0	30.11	764.7	76.3	24.6	55	S			2		0			0	0		Prof. A. Pacinotti.
Cosenza	29.24	742.6	30.08	764 0	78.1	25.6	64	SW	6.3	2.8			0			0	0		Prof. F. D. Conti.
Palermo	29.92	760.0	30.17	766.3	74.1	23.4	45	NE	5.6	2.5			3			0	0		Prof. G. Cacciatore.
Syracuse	30.01	762.3	30.09	764.2	76.1	24.5	49	E			2		4	W		0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.91	759.0	30.16	766.1	75.9	24.4	45	WSW	4.9	2.2			3	W		0	0		Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.68	752.6	29.83	757.7	78.5	25.8	87	SSW	16.6	7.4			10ks;s		SW	0	0	Cloudy	
Tokei (Yeddo)	29.71	754.6	29.78	756.4	75.3	24.1	93	SSW	3.5	1.6			10n			0.290	7.37	Light rain...	The Observatory.
Tokei (Yeddo) University	29.67	753.6	29.77	756.0	76	24.4	95	Calm	0	0			10n			Inap.	Inap.	Raining	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca																			L. Castillo, A. E.
Guadalajara	26.15	638.8	29.89	758.8	69.8	16.0	84	NE	0.9	0.4		0	8		E	0.69	17.4	Cloudy	Prof. L. Perez.
Guanajuato	23.60	599.4	29.71	754.8	66.2	19.0	69	ENE				0	10			0.34	8.6	Very cloudy	Prof. V. Fernandez
Leon					68.0	20.0	66	ENE	0.9	0.4		4c	5k	SW	SSW	0	0	Cloudy	Prof. M. Leal.
Mexico	23.05	585.4	30.02	762.6	59.0	15.0	85	Calm	0	0		10k	0	SE		0.14	3.5	Covered	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalits)					64.4	18.0	70	N	5.1	2.3		0	2ks			0	0	Clear	M. V. de Leon, M. E.
Puebla	23.23	590.0	29.88	759.1	57.6	14.2	91	SSE				10n	0			0.35	7.8	Rainy	Prof. B. Gonzales.
Toluca																			Prof. C. Velazquez.
Tlacotalpam	29.82	757.5	29.84	758.8	75.2	24.0	92	S	5.1	2.3		10k	0			0.02	0.5	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.23	614.8	30.06	763.4	72.0	22.2	65	E	0.9	0.4		2cs	6n	W	E	0.15	3.8	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.87	758.6	29.89	759.3	77.0	25.0	90	Calm	0	0		3ck	7sk			4.06	103.2	Dark	Prof. J. Rossell.
Zacatecas					57.2	14.0	99	E	1.8	0.8		0	10		NE	0.34	8.5	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.19	589.0	29.93	760.0	57.2	14.0	75	E	2.2	1.0		0	10		SE	0.16	4.0	Covered	Prof. P. Spina. [M.M. D. D
Morelia	23.98	609.0			66.2	19.0	60	NE	0.9	0.4		0	10k			0	0	Covered	M. Tena, F. L. Paramo,
Durango	24.31	617.4	30.12	765.0	68.0	20.0	89	Calm	0	0		8ck	0	S		0.48	12.2	Cloudy	M. V. de Leon, C. E.
Colima	28.22	716.7	29.82	754.5	80.6	27.0	83									0	0	Cloudy.	R. Banda, C. E
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,831 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,740.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,382.5 m., or 7,818.4 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,803 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,949 m., or 6,394.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.02	762.5	30.02	762.5	69.8	21.0		W			5					0	0		
Groningen	29.81	757.1	29.86	758.5	65.3	18.5		W			4					0.059	1.5		
Helder	29.88	759.0	29.88	759.0	66.2	19.0		SW			4					0.024	0.6		
Hellevoetsluis	29.90	759.5	29.90	759.5	68.2	20.1	79	WSW			6								
Utrecht	29.92	759.9	29.97	761.1	68.5	20.3	79	W			4		8			0.067	1.7	Very cloudy	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—12).	Clouds. Amount. Up'er (0—10).	Clouds. Amount. Low'r (0—10).	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.54	750.3	29.60	751.7	57.9	14.4	57	NW	11.0	4.9	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.52	749.9	29.56	750.9	52.9	11.6	69	W	4	2	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.32	744.8	29.46	748.3	68.2	20.1	55	SSW	7	3	.....	.....	5	.....	.....	0.122	3.1	....	
Tromsö	29.47	748.4	29.51	749.5	53.6	12.0	69	NE	4	2	.....	.....	5	.....	.....	0.102	2.6	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.06	763.4	30.24	768.2	71.1	21.7	89	W	7.4	3.3	.....	.....	4	.....	.....	0.116	3.0	.....	Dr. J. A. Sampaio
Campo Major	29.09	738.8	30.03	762.8	97.7	36.5	11	W	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.07	763.8	30.16	766.0	78.4	25.8	45	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.9	30.10	764.6	86.5	30.3	80	NNE	17.4	7.8	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.23	767.7	30.29	769.4	80.2	26.8	73	SSW	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 6° 29′, E. 11° 08′	.....	.....	30.00	762.0	75.2	24.0	.....	Calm	.....	.....	0	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.30	769.7	68.0	20.0	.....	SSW	.....	.....	5	.....	5	.....	SSW	4	S	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.93	760.3	80.6	27.0	.....	NNE	.....	.....	3	.....	3	.....	NE	2	SE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.93	760.2	.....	.....	.....	WNW	.....	.....	1	.....	2	.....	.....	1	.....	Blue sky	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.22	742.3	29.64	752.8	61.3	16.3	80	WNW	18	8	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.06	738.2	29.47	748.5	63.0	17.2	54	NW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.22	742.3	29.46	748.3	58.3	14.6	77	N	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.37	745.9	29.38	746.3	59.4	15.2	86	NW	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.72	729.5	29.34	745.1	57.4	14.1	76	NW	13	6	.....	.....	10ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.55	750.5	29.62	752.3	73.8	23.2	39	WNW	31	14	.....	.....	6cs;n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.64	752.8	29.66	753.3	71.6	22.0	63	WNW	9	4	.....	.....	9	.....	.....	.....	.....	.....	Lugorio.
Moscow	28.83	732.2	29.34	745.2	74.7	23.7	65	S	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.20	741.7	29.39	746.6	74.1	23.4	53	SW	9	4	.....	.....	5	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.54	750.2	29.66	750.7	68.0	20.0	82	NNE	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.22	716.9	29.52	749.9	94.3	34.6	39	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.61	752.1	29.53	750.0	86.2	30.1	49	SE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.23	742.5	29.48	748.8	90.7	32.6	24	ESE	4	2	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.89	733.6	29.77	756.2	84.7	29.3	29	E	31	14	.....	.....	2k;cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.46	748.2	29.67	753.7	93.7	34.3	41	NNW	7	3	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.12	714.3	29.70	754.3	87.3	30.7	58	Calm	0	0	.....	.....	9c	.....	.....	.....	.....	Light clouds	Michelson.
Barnaul	29.32	744.7	29.81	757.1	82.0	27.8	37	NE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.42	747.2	29.69	754.1	80.1	26.7	54	W	2	1	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.58	751.2	29.72	754.8	81.3	27 4	55	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.98	761.6	30.09	764.2	81.1	27.3	56	SW	6.0	2.67	.....	1	.....	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.10	764.5	30.15	765.9	83.5	28.6	58	NW	2.7	1.19	.....	.....	.....	.....	.....	0	0	Clear	Prof. Manuel de Naveran.
Burgos, Met. Obs'y	27.25	692.2	.....	.....	82.0	27.8	35	NE	2.3	1.03	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.93	709.4	30.01	762.2	93.0	33.9	27	NW	4.5	2.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.98	761.5	30.12	765.1	88.0	31.1	43	NE	5.7	2.56	.....	.....	.....	.....	.....	0.	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.26	743.2	30.13	765.2	77.9	25.5	47	NE	12.6	5.56	.....	2	0	.....	.....	0	0	Partly cl'dy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.6	30.01	762.3	85.0	29.4	79	ENE	1.6	0.7	.....	0	1k	.....	.....	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.6	30.08	764.0	85.5	29.7	31	ESE	29.1	13.0	.....	0	0	.....	.....	0	0	Clear	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.89	759.2	29.98	761.5	84.9	29.4	77	E	12.4	5.55	.....	1k	3k	E	E	0	0	Clear	Leonardo de Tejada, Ch'f Eng'rs.

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 1–10.	Low'r 1–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.55	750.6	29.59	751.6	61.2	16.2	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.52	749.7	29.57	751.0	60.4	15.8	61	E	.....	.....	2	.....	10	.....	.....	0	0	.....	
Hernosand	29.43	747.5	29.48	748.8	60.4	15.8	64	Calm	.....	.....	0	.....	9	.....	.....	0.232	5.9	.....	
Stockholm	29.37	746.0	29.55	750.5	63.8	17.4	69	SSW	.....	.....	2	.....	9	.....	.....	0.008	0.2	.....	
Wisby	29.54	750.3	29.60	751.8	60.8	16.0	75	WNW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.44	747.7	29.51	749.6	63.9	17.7	71	S	8.5	3.8	.....	.....	10	.....	SW	0.011	0.29	Raining	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.72	729.4	30.10	764.4	71.2	21.8	46	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.50	724.0	30.08	763.9	74.5	23.6	51	W	.....	.....	2	.....	1	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.0 mm.; Thermometer, —0.5 cent.; Relative Humidity, —7 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.92	759.9	68.7	20.4	74	S	9	4.0	.....	.....	10	.....	N	0.157	4.0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. Bertrand.
Sub-Series.	.....	.....	30.17	766.2	72.9	22.7	.....	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	
Beirut, (Syria,) Lee Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	29.66	753.4	29.77	756.2	88.0	31.1	57	WSW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.87	758 7	29.94	760.5	58.6	14.8	60	N	14	6.3	.....	1k	0	N	.....	0	0	Fine	Hon. J. Ferguson.
Brockville, Ontario	29.76	755.9	30.05	763.3	71	21.7	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.86	758.4	29.92	760.0	57	13.9	63	N	12	5.4	.....	2k	2ks	N	N	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island.	29.76	755.9	29.80	756.9	54	12.2	77	N	14	6.3	.....	.....	8ks	.....	N	0.070	1.78	Threatening	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.03	762.7	55.0	13.3	61	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.78	756.4	29.95	760.7	55	12.8	74	W	.....	.....	1	.....	.....	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.96	761.0	30.00	762.0	52.3	11.3	100	N	.....	.....	.....	1cs	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.97	761.2	25.99	761.7	54	12.2	67	N	18	8.0	.....	5k	5ks	N	N	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.87	758.7	29.93	760 2	58.1	14.5	54	N	14	6.3	.....	2k	0	N	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	28.94	735.1	29.71	754.6	76	24.4	91	S	12	5.4	.....	2c	2ks	W	W	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.02	737.1	30.07	763.8	73	22.8	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.62	752.3	29.75	755.6	58	14.4	66	N	17	7.6	.....	0	2ks	.....	N	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.80	756.9	30.16	766.1	75.7	24.3	74	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.55	750.6	29.58	751.3	52	11.1	93	E	.....	.....	1	.....	10	.....	.....	0.41	10.4	Raining	E. Weedon.
*Kingston, Ontario	29.74	755.4	30.06	763.5	71	21.7	53	NE	5	2.2	.....	0	Sm'e	.....	NE	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.63	752.6	29.66	753.4	54.0	12.2	.....	NE	16	7.2	.....	5c	0	NE	.....	0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec	29.85	758.2	30.04	763.0	68	20.0	39	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.41	747.0	30.07	763.8	74	23.3	79	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.36	745.7	30.06	763.5	82.7	28.2	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.41	747.0	30.09	764.3	71	21.7	80	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.65	753.1	29.70	754.4	56.3	13.5	.....	NW	7	3.1	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.45	748.0	30.07	763.8	73	22.8	76	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.71	754.6	30.02	762.5	61	16.1	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.66	753.4	30.11	764.8	64	17.8	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.85	758.2	29.90	759.4	60	15.6	52	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.74	755.4	29.90	759.4	58	14.4	61	NW	15	6.7	.....	7k	0	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.41	747.0	30.10	764.5	72	22.2	75	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.30	744.2	30.04	763.0	79	26.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.84	732.5	30.06	763.5	70.9	21.6	96	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.65	753.1	29.68	753.9	52	11.1	76	N	6	2.7	.....	.....	10ks	.....	.....	0.06	1.5	Cloudy	T. C. Hill.
*Toronto, Ontario	29.71	754.6	30.08	764.0	75	23.9	58	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	51.0	10.6	100	E	.....	.....	.....	Fog	Fog	.....	.....	0.78	19.8	Raining	John Delany.

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

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.76	755.9	29.98	761.5	66	18.9	68	N	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.42	747.3	30.04	763.0	71	21.7	62	NW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.95	760.7	29.97	761.2	76	24.4	56	NE	13	5.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Augusta, Georgia	29.86	758.4	30.03	762.7	81	27.2	83	S	1	0.4	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
Baltimore, Maryland	29.96	761.0	30.01	762.2	80	26.7	55	NE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	73	22.8	60	N	12	5.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Bismarck, Dakota	27.98	710.7	29.83	757.7	73	22.8	81	SW	3	1.3	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Boise City, Idaho	27.18	690.4	30.06	763.5	49	9.4	77	SE	4	1.8	.....	2k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.81	757.2	29.96	761.0	68.5	20.3	49	NW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Bracketville, Texas	28.75	730.2	29.73	755.1	77	25.0	69	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.89	733.8	29.82	757.4	74	23.5	86	S	18	8.0	.....	1k	0	S	.....	0	0	Clear	
Brownsville, Texas	29.84	757.9	29.91	759.7	81	27.2	87	Calm	0	0	.....	.....	8ks	.....	SE	Inap.	Inap.	Cloudy	
Buffalo, New York	29.36	745.7	30.03	762.7	73	22.8	72	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	76	24.4	38	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.78	756.4	30.04	763.0	62	16.7	61	NE	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Cairo, Illinois	29.63	752.6	30.01	762.2	76	24.4	82	Calm	0	0	.....	.....	10s	.....	SE	0.02	0.5	Hazy	
Camp Apache, Arizona	.....	.....	.....	.....	64	17.8	58	Calm	.....	.....	0	0	0	.....	.....	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.15	638.8	29.95	760.7	68	20.0	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.64	676.6	30.13	765.3	69	20.6	35	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.27	692.6	29.84	757.9	36	2.2	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.95	760.7	29.96	761.0	80	26.7	78	NE	8	3.6	.....	C	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	80	26.7	82	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.95	760.7	29.96	761.0	80	26.7	86	NW	13	5.8	.....	2c	0	NW	.....	0	0	Clear	
Cape May, New Jersey	29.96	761.0	29.99	761.7	74	23.3	65	NE	8	3.6	.....	0	0	.....	.....	0	0	Fair	
Charleston, South Carolina	29.98	761.5	30.04	763.0	80	26.7	82	N	5	2.2	.....	1c	0	Calm	.....	Inap.	Inap.	Clear	
Cheyenne, Wyoming	23.98	609.1	29.92	760.0	61	16.1	71	Calm	0	0	.....	5ck	0	SW	.....	0	0	Fair	
Chicago, Illinois	29.36	745.7	30.03	762.7	72	22.2	76	NE	4	1.8	.....	2k	Haze	NE	.....	0	0	Fair	
Cincinnati, Ohio	29.38	746.2	30.00	762.0	79	26.1	76	NE	4	1.8	.....	1c	0	W	.....	0	0	Clear	
Cleveland, Ohio	29.35	745.7	30.05	763.3	71	21.7	80	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.24	742.7	30.01	762.2	75	23.9	77	Calm	.....	.....	0	2k	0	Calm	.....	0	0	Clear	
Concho, Texas	29.49	749.0	29.95	760.7	71	21.7	95	S	2	0.9	.....	.....	10s	.....	Calm	0.39	9.9	Fair	
Corsicana, Texas	29.44	747.8	30.04	763.0	74	23.3	72	E	9	4.0	.....	0	1ks	.....	Calm	0	0	Cloudy	
Davenport, Iowa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Clear	
Denison, Texas	29.19	741.4	29.96	761.0	72	22.2	90	SE	4	1.8	.....	.....	10s	.....	SE	0.45	11.4	Cloudy	
Denver, Colorado	24.71	627.6	29.93	760.2	63	17.2	67	S	4	1.8	.....	5ck	0	W	.....	Inap.	Inap.	Fair	
Detroit, Michigan	29.42	747.3	30.06	763.5	70	21.1	66	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.38	695.4	29.57	751.1	71	21.7	80	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.05	763 3	74	23.3	72	SE	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Duluth, Minnesota	29.38	746.2	30.03	762.7	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.11	739.4	29.81	757.2	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.81	757.2	29.88	758.9	60	15.6	49	N	15	6.7	.....	8ck	Haze	NW	Calm	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	83	28.3	49	W	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Erie, Pennsylvania	29.35	745.5	30.03	762.7	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.47	748.5	30.10	764.5	71	21.7	75	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	75	23 9	37	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.42	645.7	29.48	748.8	64	17.8	57	W	4	1.8	.....	5ck	0	S	.....	0	0	Fair	
Fort Davis, Texas	25.19	639.8	30.15	765.8	67	19.4	64	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760.5	75	23.9	86	E	2	0.9	.....	2ck	0	W	.....	0.36	9.1	Clear	
Fort Griffin, Texas	28.67	728.2	29.89	759.2	70	21.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.81	757.2	73	22.8	85	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.94	760.5	29.99	761.7	76	24.4	86	SE	12	5.4	.....	.....	10ks	.....	SE	1.55	39.4	Cloudy	
Grand Haven, Michigan	29.44	747.8	30.05	763.3	78	25.6	69	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.26	743.2	30.00	762.0	80	26.7	70	NE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Indianola, Texas	29.90	759 4	29.93	760.2	81	27.2	83	E	10	4.5	.....	1ck	2s	SW	Calm	0.03	0.8	Fair	
Jacksboro, Texas	28.84	732.5	29.93	760.2	70	21.1	90	S	4	1.8	.....	.....	Fog	.....	S	0.12	3.0	Foggy	
Jacksonville, Florida	29.93	760.0	29.98	761.5	79	26.1	87	SW	4	1.8	.....	.....	10s	.....	SW	0 33	8.4	Cloudy	
Keokuk, Iowa	29.38	746.2	29.95	760.7	78	25.6	78	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.97	761.2	30.03	762.0	85	29.4	72	NE	6	2.7	.....	3c;k	1ks	NE	Calm	0	0	Fair	
Kittyhawk, North Carolina	29.93	760.2	29.95	760.7	78	25.6	86	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.05	737.9	30.00	762.0	78	25.6	73	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Clear	
La Crosse, Wisconsin	29.32	744 7	30.02	762.5	74	23.3	81	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.44	747.8	29.76	755.9	79	26.1	82	E	3	1.3	.....	5k	0	Calm	.....	Inap.	Inap.	Fair	
Lead City, Dakota	24.76	628.9	.....	.....	61	16.1	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.13	739.9	29.93	760.2	74	23.3	86	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.46	748.3	29.80	756.9	55	12.8	77	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.45	748.0	29.98	761 5	78	25.6	78	NE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.31	744.5	29.95	760.7	82	27.8	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.39	746.5	30.08	763.5	73	22.8	67	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.31	719.1	29.90	761.7	73	22.8	81	SE	1	0.4	.....	2k	0	S	.....	0	0	Fair	
Memphis, Tennessee	29.67	753.6	29.97	761.2	77	25.0	86	S	3	1.3	.....	5c	2s	SW	S	0.17	4.3	Fair	
Milwaukee, Wisconsin	29.36	745.7	30.06	763.5	72	22 2	67	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.99	761.7	30.03	762.7	82	27.8	79	SW	1	0.4	.....	5sk	5s	W	Calm	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.80	756.9	30.02	762.5	81	27.2	78	Calm	0	0	.....	5c	0	Calm	.....	0.62	15.7	Fair	
Morgantown, West Virginia	29.02	737.1	30.02	762.5	77	25.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.80	604.5	30.16	766.1	40	4.4	40	N	30	13.4	.....	0	Haze	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.48	748.8	29.99	761.7	78	25.6	86	Calm	0	0	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
New Haven, Connecticut	29.86	758.4	29.98	761.5	70	21.1	57	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Hazy	
New London, Connecticut	29.94	760.5	29.98	761.5	71	21.7	58	N	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Dense haze	
New Orleans, Louisiana	29.95	760.7	30.01	762.2	80	26.7	87	Calm	0	0	.....	.....	10ks	.....	Calm	0.01	0.3	Cloudy	
Newport, Rhode Island	29.91	759.7	29.96	761.0	69	20.6	65	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.82	757.4	29.99	761.7	76	24.4	44	N	4	1.8	.....	Haze	Haze	.....	Calm	0	0	Hazy	
Norfolk, Virginia	29.91	759.7	29.96	761.0	83	28.3	71	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.03	686.6	29.47	748.5	68	20.0	90	S	24	10.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.99	761.7	30.03	762.7	48	8.9	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.87	733.3	29.89	759.2	76	24.4	86	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.73	755.1	30.04	763.0	71	21.7	53	N	4	1 8	.....	0	Haze	.....	Calm	0	0	Clear	
Pembina, Dakota	28.94	735.1	29.71	754.6	77	25.0	77	S	16	7.2	.....	2c	0	W	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.95	760.7	30.00	762.0	77	25.0	31	NE	7	3.1	.....	0	Sm'e	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.60	726.4	.....	.....	82	27.8	32	SE	.....	.....	1	0	0	.....	.....	0	0	Fair	
Pike's Peak, Colorado	17.97	456.4	30.18	766.6	37	2.8	63	SW	12	5.4	.....	5k	0	W	.....	Inap.	Inap.	Fair	
Ploche, Nevada	24.05	610.9	29.82	757.4	51	10.6	34	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.25	742.9	30.03	762.7	71	21.7	75	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.43	747.5	30.08	764.0	66	18.9	79	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.88	758.9	29.93	760.2	68	20.0	47	N	8	3.6	.....	2k;hz	Haze	Calm	.....	0	0	Hazy	
Portland, Oregon	30.01	762.2	30.11	764.8	53	11.7	93	NW	1	0 4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Prescott, Arizona	24.72	627.9	30.08	764.0	52	11.1	35	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.01	762.2	30.03	762.7	83	28.3	83	N	5	2.2	.. ..	5c	0	W	.....	0	0	Fair...	
Red Bluff, California	29.61	749.5	29.85	758.2	65	18.3	44	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Rochester, New York	29.44	747.8	30.03	762.7	74	23.3	72	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Roseburg, Oregon	29.50	749.3	30.07	763.8	57	13.9	84	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sacramento, California	29.74	755.4	29.82	757.4	62	16.7	67	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
St. Louis, Missouri	29.46	748.3	30.01	762.2	73	22.8	81	E	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear.....	
St. Marks, Florida	29.98	761.5	29.99	761.7	80	26.7	91	N	4	1.8	.....	5c	0	Calm	.....	0.01	0.3	Fair.....	
St. Paul, Minnesota	29.18	741.2	29.97	761.2	73	22.8	81	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	56	13.3	35	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.22	742.2	29.78	756.4	78	25.6	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	29.76	755.9	29.83	757.7	63	17.2	83	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Sandusky, Ohio	29.43	747.5	30.08	764.0	74	23.3	81	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	
Sandy Hook, New Jersey	29.95	760.7	29.98	761.5	72	22.2	54	NE	12	5.4	.....	0	Fog	.....	Calm	0	0	Foggy	
San Francisco, California	29.79	756.7	29.86	758.4	54	12.2	83	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.32	592.3	29.88	758.4	62	16.7	67	E	3	1.3	.....	10k	0	Calm	.....	0.03	0.8	Cloudy.....	
Savannah, Georgia	29.93	760.2	30.02	762.5	76	24.4	95	E	4	1.8	.....	.....	Fog	.....	Calm	2.04	51.8	Foggy	
Shreveport, Louisiana	29.76	755.9	29.96	761.0	77	25.0	95	Calm	0	0	.....	5cs	0	Calm	.....	0.20	5.1	Fair.....	
Silver City, New Mexico	24.27	616.4	30.27	768.8	60	15.6	82	Calm	0	0	.....	0	0	.....	.....	0.89	22.6	Clear.....	
Smithville, North Carolina	29.99	761.7	30.03	762.7	78	25.6	82	NW	5	2.2	.....	1cs	0	Calm	.....	0	0	Clear.	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	70	21.1	48	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Stockton, Texas	26.89	683.0	29.89	759.2	63	17.2	42	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Thatcher's Island, Mass	29.90	759.4	29.95	760.7	67	19.4	74	N	8	3.6	.....	2c	Sm'e	Calm	.....	0	0	Smoky.....	
Toledo, Ohio,	29.39	746.5	30.04	763.0	74	23.3	68	NE	4	1.8	.....	0	0 •	.....	.....	0	0	Clear	
Tucson, Arizona	27.47	697.7	30.02	762.5	74	23.3	36	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	79	26.1	91	N	10	4.5	.....	2cs	2ks	Calm	N	0.11	2.8	Fair	
Umatilla, Oregon	29.64	752.8	.....	.....	60	15.6	65	NW	4	1.8	.....	0	2s	..... W	W	0	0	Fair.....	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	81	27.2	74	S	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Virginia City, Montana	24.27	616.4	29.75	755.6	47	8.3	85	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear.....	
Visalia, California	29.48	748.8	29.85	758.2	57	13.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.92	760.0	30.03	762.7	79	26.1	62	N	5	2.2	.....	0	Haze	.....	.....	0	0	Clear.	
Wickenburg, Arizona	.....	.....	.....	.....	69	20.6	.....	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy.....	
Wilmington, N. Carolina	29.91	759.7	29.99	761.7	78	25.6	86	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	43	6.1	36	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Wood's Holl, Mass	29.89	759.2	29.94	760.5	72	22.2	68	N	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Dense Haze.	
Yankton, Dakota	28.69	728.7	29.90	759.4	74	23.3	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Yuma, Arizona	29.51	749.5	29.67	753.6	71	21.7	67	E	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.41	747.0	29.46	748.3	67.5	19.7	65	E	9	4.0	.....	2k	3s	E	NE	0.10	2.5	Cloudy.....	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.97	761.2	29.99	761.7	84	28.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Chas. Hasselbrink.
Kingston, Jamaica, W. I	30.13	765.3	30.14	765.5	83	28.3	87	Calm	0	0	.....	5c	2s	Calm	.....	0	0	.....	James Gall.
Navassa, W. I	29.90	759.4	29.98	761.5	82	27.8	.....	NE	5	2.2	.....	.....	.....	.....	.....	0	0	Fair.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	29.99	761.7	29.99	761.7	79	26.1	91	SE	.....	.....	2	3c	4k	E	.....	1.250	31.75	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A	25.20	640.1	.....	.....	67.0	19.4	87	S	5	2.2	.....	.....	10s;ks	.....	.....	0.05	1.3	.....	Thomas Herran.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.8 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1.7 m.; Camp Grant, 4,888 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,586.0 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,58((?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,890 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48(in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.16 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.83	757.7	60	15.6	56.5	13.6	97	SW	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.18	766.6	82	27.8	82	27.8	85	Calm	0	0	.....	.....	8	.....	NW	0	0	.....	.....	Hazy.....	
Navy Yard, Portsmouth, N.H	29.95	760.7	85	29.4	63	17.2	38	W	3	1.3	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.76*	755.9*	76.5	24.7	75	23.9	93	Calm	.....	.....	0	.....	10n;8	.....	SW	0.01	0.3	.....	.....	Light rain....	
Alliance, N. 40° 32′, W. 9° 39′	30.19‡	766.8‡	.....	.....	68	20.0	90	NNE	.....	.....	4–5	.....	4	.....	N	.....	.....	Mod'ate	N	Misty.....	
Ashuelot. Nagasaki, Japan	29.90	759.4	80	26.7	80	26.7	91	SW	.....	.....	3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Alaska, N. 12° 11′, W. 37° 50′	30.12	765.0	79	26.1	78	25.6	91	ENE	.....	.....	4	.....	2	.....	NE	.....	.....	Long	NE	Squally.....	
Canonicus, New Orleans, La	30.04	763.0	57	13.9	79	26.1	95	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy..	
Colorado, New York, N. Y.	30.01‡	762.2‡	.....	.....	74	23.3	81	N	2	0.9	.....	.....	8	.....	N	0	0	.....	.....	Foggy	
Constellation, N. 39° 06′, W. 73° 29′	30.03‡	762.7‡	.....	.....	73	22.8	76	NNE	.....	.....	3	.....	2	.....	N&E	.....	.....	Smooth	.....	Clear.....	
Constitution, Havre, France	30.11‡	764.8‡	.....	.....	65	18.3	89	W	.....	.....	2	.....	3	.....	Calm	.....	.....	.....	.....	Clear.....	
Despatch, Prince's Islands, Sea of Marmora	29.93‡	760.2‡	.....	.....	68	20.0	70	E	.....	.....	3	.....	8	.....	ESE	.....	.....	Smooth	.....	Showery.....	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.91‡	759.7‡	.....	.....	79	26.1	95	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va.	30.09	764.3	83	28.3	82	27.8	75	N	6	2.7	.....	.....	1	.....	N	0	0	.....	.....	Clear.....	
Gettysburg Alexandria, Egypt	29.85‡	758.2‡	.....	.....	78	25.6	??	NNW	.....	.....	4	.....	2	.....	NNW	0	0	.....	.....	Clear.....	
Guard, Rio de Janeiro, Brazil	30.11	764.8	74	23.3	72	22.2	80	N	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	Clear..	
Hartford, Rio de Janeiro, Brazil	30.10	764.5	.....	.....	74	23.3	72	NNW	2.4	1.1	.....	.....	2	.....	N	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	30.13	765.3	74	23.3	74	23.3	68	S	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.60	751.8	75	23.9	75	23.9	90	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.76‡	755.9‡	.....	.....	77	25.0	91	Calm	.....	.....	0	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.22†	767.6†	.....	.....	79	26.1	91	N	9	4.0	.....	.....	2	.....	N	0.25	6.3	.....	.....	Clear	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	63	17.2	78	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Che-foo, China	29.69	754.1	72	22.2	67	19.4	100	ENE	.....	.....	3–4	.....	10	.....	.....	.....	.....	Mod'ate	E	Rainy.....	
Pensacola, Mare Island, California	29.93	760.2	61	16.1	56	13.3	87	S	17	7.6	.....	.....	6	.....	SW	.....	.....	.....	.....	Cloudy.....	
Plymouth. New York, N. Y.	30.04‡	763.0‡	.....	.....	72	22.2	58	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger. Hong-Kong, China	30.01*	762.2*	.....	.....	86	30 0	83	Calm	.....	.....	0	.....	5	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.88	758.9	80	26.7	79	26.1	91	NE	.....	.....	1	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	30.02‡	762.5‡	.....	.....	78	25.6	54	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
St. Louis, League Island, Pa	29.97	761.2	76	24.4	77	25.0	53	NNW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Supply, Havre, France	30.19	766.8	67	19.4	68	20.0	74	NW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass.	29.94‡	760.5‡	.....	.....	67	19.4	84	NNW	.....	.....	0–1	.....	5	.....	NNW	.....	.....	.....	.....	Fair	
Trenton, Leghorn, Italy	30.11‡	764.8‡	.....	.....	75	23.9	64	W	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear.....	
Tuscarora, N. 17° 48′, W. 101° 48′	29.60	751.8	78	25.6	78	25.6	95	SE	.....	.....	3–4	.....	10	.....	Calm	3.00	76.2	Mod'ate	SSE	Raining.....	
Vandalia, Smyrna, Turkey	29.88‡	758.9‡	.....	.....	77	25.0	53	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass	29.94‡	760.5‡	.....	.....	66	18.9	64	NW	3	1.3	.....	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Wyoming, N. 64° 36′, W. 27° 07′	29.47	748.5	62	16.7	56	13.3	87	W	.....	.....	4	.....	5	.....	.....	.....	.....	Mod'ate	W	Squally.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10	0—10	From —	From —		CHARACTER.	DIRECTION FROM—		
S. S. Alaska																			
S. S. China, N. 31° 35′, E. 132° 50′		29.93*	760.2*	81	27.2	100	SW			4		3		SW	0	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.10*	764.5*				NE			2		5		E				Fair	Capt. Seabury.
S. S. City of Peking, N. 41° 49′, W. 134° 51′		30.39†	771.9†	54	12.2	100	N	21	9.4			10		N		Small	N	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 8° 34′, W. 79° 31′		29.89†	759.2†	80	26.7	?	NNW			3		5		NW	0	Small	NW	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		30.04*	763.0*	84	28.9		Calm			0					0			D. clouds	Capt. B. Gleadell.
S. S. Germanic N. 51° 22′, W. 15° 20′		30.08†	764.0†	60	15.6	94	W			5				W	7 hours	Strong	W	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic. N. 28° 17′ E. 127° 50′		29.82*	757.4*	84	28.9	100	SW			4		cs		SW	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 50° 0′, W. 9° 51′		30.10	764.5	71.0	21.7	62	WNW			3		2		SW	Blank		WNW	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	0—10.	0—10.	From—	From—		CHARACTER	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.15*	765.8*	63	17.2	83	WSW			6		7		WSW	0			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.01	762.2	79	26.1	91	NNW			2		5		N	0			Clear?	Captain Morrison.
S. S. Pennsylvania, N. 50° 19′, W. 13° 24′		30.08†	764.0†	65	18.3	100	WSW			2		4		W	0	Light	wsw	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°′, W. 66°		30.07*	763.8*	35.5	1.9		SE					10s						Showery	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 7, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.04	763.0	69.6	20.9	86	NE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Dr. Ollive.
Nemours	.....	.....	30.08	764.0	77.2	25.1	63	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Michel.
Algiers	.....	.....	30.02	762.5	80.2	26.8	67	N	.....	.....	3	.....	6	.....	.....	0	0	Cloudy	Tourilliere.
La Calle	.....	.....	30.05	763.2	76.3	24.6	74	NE	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Foufrede.
Tunis	.....	.....	30.07	763.7	88.2	31.2	.....	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.16	766.0	84.2	29.0	.....	ENE	.....	.....	3	.....	6	.....	.....	0	0	Cloudy	Gau.
Saida	.....	.....	30.10	764.6	82.6	28.1	21	N	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.13	765.2	.....	.....	.....	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.12	765.0	92.1	33.4	.....	SE	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair	Brugniaux.
Laghouat	.....	.....	30.10	764.5	91.0	32.8	26	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.12	765.1	77.4	25.2	24	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.37	746.0	29.89	759.2	81.5	27.5	52	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Ivan Stoza
Cracow, I. R. Observatory	29.05	737.9	29.79	756.7	69.8	21.0	55	W	.....	.....	3	.....	5	.....	.....	0.075	1.9	.....	Dr. Wierzbiski.
Eperies	28.93	734.8	29.77	756.2	72.0	22.2	59	NW	.....	.....	3	.....	8cks	.....	SE	0.333	8.46	.....	Julius Mikolik.
Gratz	28.68	728.5	29.88	759.0	73.0	22.8	71	SSE	.....	.....	2	.....	7	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.46	722.9	29.82	757.5	72.7	22.6	51	W	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.61	726.6	29.92	759.9	63.0	17.2	88	WSW	.....	.....	2	.....	10	.....	.....	0.819	20.8	.....	Prof. C. Wagner
Lemberg	28.73	729.8	29.69	754.0	66.7	19.3	68	NW	.....	.....	3	.....	3	.....	.....	0.193	4.9	.....	Dr. T. Stanecki.
Pola	29.89	759.1	29.99	761.8	80.1	26.7	54	SSE	.....	.....	1	.....	7cs	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.43	747.4	29.88	758.9	64.8	18.2	88	SE	.....	.....	2	.....	8	.....	.....	0.370	9.4	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.91	759.8	30.02	762.4	77.0	25.0	51	W	.....	.....	1	.....	2	.....	.....	Inap.	Inap.	Clear	P. Busin.
Vienna	29.22	742.2	29.92	759.9	65.1	18.4	82	W	.....	.....	3	.....	10	.....	.....	0	0	.....	I. R. Central Met. Ob's'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.54	724.8	30.00	761.9	68.5	20.3	65	SW	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.77	756.2	29.97	761.2	68.9	20.5	55	W	.....	.....	3	.....	10	.....	W;WNW	0	0	.....	Royal Observatory
Furnes	30.01	762.2	30.03	762.8	70.9	21.6	65	W	.....	.....	2	.....	7	.....	.....	0.031	0.8	.....	M. E. de Cae.
Maeseyck	29.85	758.1	29.97	761.3	69.6	20.9	80	W	.....	.....	4	.....	9	.....	.....	0.016	0.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.78	756.4	29.87	758.7	60.7	15.9	.....	NW	11	4.9	.....	.....	6	.....	.....	0	0	D. clouds.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.01	762.2	63.8	17.7	.....	WNW	7	3.1	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.00	762.0	63.3	17.4	.....	W	17	7.6	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.02	762.5	66.3	19.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	85	29.4	.....	SE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.98	761.5	72.0	22.2	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd. [H.C.
Cardington	.....	.....	30.00	762.0	71.0	21.7	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.92	760.0	30.05	763.3	64.2	17.9	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.66	728.0	30.12	765.0	61.0	16.1	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.95	760.7	29.98	761.5	62	16.7	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.96	761.0	29.99	761.7	69	20.6	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	⅛ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.96	761.0	66.8	19.3	.....	NW	8.8	3.9	.....	.....	8	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.90	759.4	30.12	765.0	68.7	19.3	.....	WNW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.75	704.8	30.04	763.0	64.5	18.1	.....	SE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.75	755.6	29.98	761.5	84	28.9	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	B ue sky.....	
Galway, Queen's College	.....	.....	29.98	761.5	63	17.2	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.05	763.3	30.10	764.5	74.6	23.7	.....	E	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.71	754.6	29.92	760.0	62.7	17.1	.....	WNW	.....	.....	3	.....	7	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.94	760.5	29.94	760.5	67	19.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Drizzling.....	G. T. Watson.
Greenwich, Royal Obs'y	29.82	757.4	29.99	761.7	68.3	20.2	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.88	758.9	30.10	764.5	65	18.3	.....	WNW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.16	766.1	67	19.4	.....	SW	.....	.....	2	.....	3c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.97	761.2	30.02	762.5	65	18.3	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.86	758.4	30.15	765.8	63.0	17.2	.....	NW	.....	.....	2	.....	8	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	30.00	762.0	69.0	20.6	.....	W	11	4.9	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	29.99	761.7	30.02	762.5	65	18.3	.....	W	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	George Mitchell.
Leicester, Museum	.....	.....	30.19	766.8	63.7	17.6	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.97	761.2	30.05	763.3	77	25.0	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt A. H. C.
Nairn	29.72	754 9	29.87	758.7	63	17.2	.....	WNW	.....	.....	2	.....	2	.....	.....	.....	.....	¼ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.95	760.7	83.0	28.3	.....	S	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.80	756.9	29.99	761.7	71.7	22.1	.....	NW	.....	.....	4	.....	8k	.....	WNW	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.48	748.8	29.99	761.7	65.9	18.8	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.01	762.2	69	20.6	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	H.E. Bellamy.
Plymouth	30.01	762 2	30.09	764.3	70.0	21.1	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	30.02	762.5	30.06	763.5	63	17.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.86	758.4	55.2	12.9	.....	NW	18	8.0	.....	.....	4	.....	.....	.....	.....	D. clouds....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.96	761.0	76.4	24.7	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.73	755.1	30.00	762.0	66.9	19.4	.....	SW	.....	.....	5	.....	8	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.93	760.2	29.96	761.0	63.7	17.6	79	SW	.....	.....	3	.....	7	.....	.....	0.040	1.02	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.58	751.3	29.99	761.7	63.0	17.2	.....	W	.....	.....	3	.....	6	.....	.....	.....	.....	Squally.....	Rev. S. J. Perry.
Stornoway, Lews C. (Hebr.)	29.85	758.2	29.88	758.9	59	15.0	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	29.80	756.9	30.01	762.2	71.8	22.1	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	Rev. C. H. Grimah, F.M.S
Thurso	.....	.....	29.88	758.9	55	12.8	.....	NNW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	30.13	765.3	70	21.1	.....	W	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	.....	.....	30.02	762.5	61.2	16.2	.....	SSW	19	8.5	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.94	760.5	54.0	12.2	86	NW	.....	.....	3	.....	9k	.....	.....	0	0	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.08	763 9	71.3	21.8	70	SSE	12.0	5.4	.....	0	4	.....	.....	0	0	Fine; cloudy	C. Meldrum.
Melbourne, Observatory	30.31	769.9	30.40	772.1	50.2	10.1	70	NW	10	4.5	.....	.....	10	.....	.....	0.01	0.3	Fine	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 38° 50′ W. 72° 25′	1	.....	D. clouds.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 61° 12′, W. 48° 10′	0	.....	Foggy	Capt. Alex Simpson.
Barque Virginia, N. 44° 25′, W. 53° 35′	5	NE	Drizzling.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.22	666.0	.....	.....	65.3	18.5	90	SE	.....	.....	1	.....	9c;s	.....	.....	0	0	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.58	751.3	29.63	752.5	63.5	17.5	68	WNW	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Fanöe	29.70	754.3	29.72	754.8	62.1	16.7	80	W	.....	.....	6	.....	7	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.55	750.6	29.60	751.7	43.5	6.4	86	S	.....	.....	6	.....	0	.....	.....	.....	.....	.....	Foggy
Stykkisholm, (Iceland)	29.76	756.0	29.81	757.1	53.2	11.8	84	W	.....	.....	4	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.83	757.7	29.87	758.6	56.3	13.5	77	W	.....	.....	3	.....	2	.....	.....	.....	.....	.....	
Vestervig	29.48	748.9	29.65	753.2	58.6	14.8	66	W	.....	.....	6	.....	6	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.59	751.6	30.14	765.6	69.8	21	66	SW	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	29.89	759.3	30.00	762.0	72.3	22.4	91	NW	.....	.....	2	.....	5	.....	NW	0	0	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.93	760.3	30.01	762.3	66.9	30.5	42	NNW	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.49	749.1	30.04	763.0	73.6	23.1	53	WNW	.....	.....	2	.....	5kn	.....	W	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.78	756.5	30.06	763.5	71.4	21.9	72	W	.....	.....	2	.....	8	.....	WNW	0.167	4.25	Very cloudy	Normal School.
Besançon	29.19	741.4	30.05	763.2	73.6	23.1	62	SW	.....	.....	3	.....	2	.....	SW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.22	742.2	30.16	766.1	80.4	26.9	50	W	.....	.....	6	.....	5ck	.....	W	0	0	Cloudy	Normal School.
Bourges, Normal School	29.50	749.3	30.10	764.4	77.7	25.4	63	WSW	.....	.....	1	.....	ck	.....	WSW	0	0	.....	A. Wagner, Director.
Brest, Naval Observatory	29.88	758.9	30.12	765.0	69.1	20.6	61	N	.....	.....	2	.....	9	.....	NW	0.010	0.25	.....	The Staff.
Carcassonne, Normal School	29.72	755.0	30.13	765.2	82.4	28	33	W	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.45	747.9	29.99	761.8	74.8	23.8	88	WNW	.....	.....	1	.....	8	.....	SE	0	0	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.71	754.6	30.01	762.3	74.1	23.4	52	W	.....	.....	3	.....	5ck	.....	W	0.020	0.5	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.72	729.6	30.05	763.2	82.0	27.8	28	W	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	Allnard, Director.
Commercy, Normal School	29.17	741.0	30.03	762.7	69.8	21	67	W	.....	.....	2	.....	2	.....	E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.96	735.5	30.10	764.5	84.4	29.1	45	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.94	760.4	30.14	765.6	74.1	23.4	70	W	.....	.....	4	.....	8	.....	WSW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.80	757.0	30.10	764.6	71.8	22.1	67	W	.....	.....	4	.....	5	.....	W	0.030	0.75	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.16	740.6	30.04	762.9	76.6	24.8	42	NNW	.....	.....	2	.....	5	.....	E	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	30.07	763.6	30.16	766.1	70.5	21.4	70	NW	.....	.....	2	.....	8	.....	N	0.031	0.8	¼ Covered	T. Carré, Director.
Mâcon, Normal School	29.36	745.8	30.01	762.2	78.6	25.9	56	NW	.....	.....	4	.....	1	.....	NW	0	0	Clear	M. Galzin, Director.
Mirecourt	29.01	736.8	30.02	762.5	70.0	21.1	71	NW	.....	.....	2	.....	5	.....	SE	0	0	Cloudy	Normal School
Nismes, Normal School	29.79	756.7	29.98	761.6	91.0	32.8	39	SW	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.70	754.3	30.08	763.9	68.9	20.5	59	W	.....	.....	2	.....	5	.....	W	0	0	Cloudy	Bernard, Director.
Paris, Observatory	29.82	757.3	30.05	763.2	72.1	22.3	61	W	.....	.....	1	.....	9	.....	.....	0	0	Almost cov'd	National Observatory.
Privas	29.02	737.0	30.08	764.0	77.0	25	58	N	.....	.....	2	.....	10	.....	N	0	0	Covered	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Allnard, Director.
Rochefort, Naval Obs'y	30.12	765.0	30.15	765.8	75.2	24.0	46	SW	.....	.....	4	.....	10	.....	SW	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.98	761.4	30.06	763.5	70.3	21.3	69	W	.....	.....	2	.....	5	.....	W	0.157	4.0	Cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.08	738.6	30.13	765.3	71.6	22	74	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.37	746.0	30.05	763.3	79.7	26.5	76	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.85	758.2	82.4	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchès.
Lyons	.....	.....	30.10	764.6	81.7	27.6	41	.....	.....	.....	.....	.....	3	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	30.01	762.2	72.9	22.7	54	W	.....	.....	0–1	.....	0	.....	.....	0	0	.....	The Staff.
Mont-Louis	25.13	638.2	30.44	773.2	69.4	20.8	29	SSE	5.6	2.50	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.07	763.6	73.4	23.0	73	S	.....	.....	1	.....	4	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.76	756.0	30.04	763.0	72.5	22.5	65	W	.....	.....	2	.....	7	.....	NW	Inap.	Inap.	.....	Marié Davy, Director
Perpignan	.....	.....	30.10	764.4	86.7	30.4	33	N	13.0	5.83	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantado,) H. P.	22.78	578.6	.....	.....	59.0	15.0	.....	NE	.....	.....	1	.....	1	.....	.....	0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.89	759.1	30.05	763.3	72.7	22.6	64	W	.....	.....	1	.....	9	WNW	W	0.067	1.7	Covered	E. Renou.
Toulouse, Observatory	29.47	748.5	30.20	767.0	77.4	25.2	39	NW	.....	.....	3	.....	2	.....	.....	0.069	1.75	.....	The Staff.
Tours	29.90	759.5	30.10	764.5	72.1	22.3	75	W	.....	.....	2	.....	10	.....	W	0.043	1.1	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.07	763.6	75.6	24.2	56	NW	.....	.....	2	.....	8	.....	.....	0.004	0.09	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.78	756.4	29.80	757.0	79.2	26.2	94	SSE	2.2	1.0	.....	5ck	.....	W	.....	0.024	0.6	Cloudy	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantado,) 2,360 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.1	29.90	759.5	74.7	23.7	60	W			3		5	W		0.31	8.	Raining	Prof. Dr. Hoh.
Berlin	29.65	753.2	29.82	757.5	63.5	17.5	78	NE			3		10			0.335	8.5	Raining	Prof. Arndt.
Breslau	29.35	745.4	29.87	758.8	66.9	19.4	61	WNW			4		9			0.165	4.20		Royal University Obs'y
Carlsruhe	29.56	750.8	29.98	761.4	69.6	20.9	76	W			2		5			0.075	1.9		Albert Senz.
Cassel	29.29	744.0	29.88	759.0	63.3	17.4	88	NNW			4		8	W		0.144	3.65		Dr. H. Möhl.
Crefeld	29.76	755.9	29.92	760.0	71.8	22.1	67	W			4		8k			0.12	3.		Director Lose.
Emden	29.89	759.1	29.93	760.1	59.2	15.1	80	W			4		10			0	0		Prof. Prestel.
Frankfort on the Main	29.63	752.6	29.98	761.5	74.3	23.5		SW			5		7			0.012	0.3		Physical Society.
Friedrichshafen	28.59	726.1	30.04	763.1	72.7	22.6	66	SW			5		8	SW		0.031	0.8		M. Wilhelm.
Hamburg	29.72	755.0	29.79	756.7	65.7	18.7	74	NW			4		10			0.055	1.4		Captain F. Hegemann.
Kiel	29.74	755.3	29.75	755.7	64.8	18.2	71	W			6		10			0.066	1.67		Prof. G. Karsten.
Königsberg, (Prussia)	29.50	749.3	29.58	751.3	64.4	18.0	78	W			5		6			0.122	3.1		Prof. E Luther.
Köslin			29.76	755.9	63.3	17.4		N			4		2			0.264	6.7		H. Müller.
Leipsic, Observatory	29.48	748.9	29.89	759.2	70.9	21.6	53	WNW			2		8	W		0.118	3.0		Prof. Bruhns.
Memel, Naval School	29.54	750.2	29.58	751.4	65.5	18.6	71	W			1		10cs						Reinbrecht and Skalweit.
Neufahrwasser	29.67	753.6	29.69	754.0	63.5	17.5	66	WNW			5		10			0.047	1.2	Squally	A. Lothes.
Posen	29.57	751.1	29.85	758.2	67.1	19.5	62	W			6		9			0.051	1.3		Dr. Magener.
Strassburg (in Alsace)	29.49	749.0	30.02	762.6	70.0	21.1	71	N			1		6	W		0	0		Astronomical Observatory.
Stuttgart	29.04	737.7	29.97	761.1	65.3	18.5	85	W			0		7	W		0.185	4.7	Light rain	Prof. Schoder.
Treves, (Trier)	29.34	745.3	29.86	758.5	74.3	23.5	56	WSW			6		5			0.082	2.08		Prof. Flesch.
Weissenburg, (Bavaria)	28.50	724.0	29.96	760.9	63.0	17.2	78	NW	2	1			7ck		WNW	0.469	11.9		Dr. Von Bebber.
Wustrow, Naval School	29.71	754.6	29.75	755.6	65.3	18.5	77	W			5		7			0.154	3.9		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.64	752.8	30.01	762.3	84.7	29.3		SW			1.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.48	748.9	29.53	750.1	89.6	32.0	70	WSW	42?	18.8?			9		WSW	0	0	D. clouds	
Deesa	29.11	739.5	29.58	751.4	83.3	28.5	86	S					10		SW	0.57	14.5	Overcast	
Bombay	29.69	754.1	29.73	755.1	81.3	27.4	93	WSW	17	7.6			10		WSW	0.49	12.4	Overcast	
Poona	27.77	705.3	29.78	756.4	73.9	23.3	87	W					10		SW	0.09	2.3	Overcast	
Lahore	28.72	729.6	29.44	747.8	92.1	33.4	57	SE	2.9	1.3			3			0	0		
Belgaum	27.28	692.8	29.83	757.6	71.9	22.2	95	WNW	3	1.3			10		W	0.44	11.2	Showery	
Bangalore																			
Roorkee	28.65	727.6	29.55	750.5	73.8	23.2	93	SE	4.2	1.9			10			8.52	216.4	Gloomy	
Agra	28.97	735.8	29.53	749.9	82.7	28.2	87	SW	6	2.7					SW	0	0		
Trichinopoly																			
Nagpur	28.60	726.5	29.63	752.6	84.4	29.1	68	S	7.1	3.2			7		E	0	0	Gloomy	
Madras																			
Lucknow	29.19	741.3	29.55	750.5	90.2	32.3	63	E	2.2	1.0			10			0	0	Overcast	
Allahabad	29.23	742.5	29.53	750.4	93.1	33.9	65	Calm	2.2	1.0			7		E	0.28	7.1	D. clouds	
Patna	29.43	747.4	29.60	752.0	86.0	30.0	81	E	1.0	0.4			10	E	E	0	0	Overcast	
Hazaribagh	27.63	701.9	29.64	752.9	75.8	24.3	90	SSE	6.3	2.8			10			2.73	69.3	Thunder-storm	
Cuttack	29.58	751.3	29.66	753.4	88.1	31.2	62	SSW	4.6	2.1			5			0	0	D. clouds	
Calcutta (Alipore)	29.63	752.7	29.66	753.2	82.7	28.2	84	S	9.0	4.0			5		S	0	0	D. clouds	
Goalpara	29.31	744.5	29.70	754.4	77.0	25.0	96	Calm	2.6	1.2			8	S		1.02	25.9	D. clouds	
Chittagong	29.66	753.4	29.76	755.8	83.4	28.6	87	Calm	6.1	2.7			0			0	0		
Sibsagar	29.33	745.0	29.67	753.5	81.6	27.6	89	E	4.5	2.0			10	W	W	0.17	4.3	D. clouds	
Rangoon																			
Jubbulpore	28.28	718.2	29.61	752.2	86.5	30.3	61	NW	6.9	3.1			3	SW		0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters	Weather.	Observer.
Udine	29.61	752.1	30.01	762.2	77.0	25.0	49	SW	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.58	750.9	29.98	761.6	79.0	26.1	56	SE	3.6	1.7	.....	.....	9	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.78	756.3	29.96	761.0	78.1	25.6	52	E	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.68	728.4	29.95	760.6	79.5	26.4	49	SW	.....	.....	1	.....	3	.....	.....	0.268	6.8	.....	Prof. Trionfini Carlo.
Milan	29.40	748.2	29.95	760.8	82.0	27.8	.....	SW	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.06	738.2	29.93	760.3	79.3	26.3	47	SSE	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.09	713.4	29.93	760.1	73.8	23.2	61	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.84	757.9	30.06	763.4	71.2	21.8	70	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.89	759.2	30.06	763.4	72.1	22.3	67	SE	8.7	3.9	.....	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.67	753.6	29.98	761.4	81.1	27.3	36	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.79	756.7	30.04	763.0	82.3	27.8	37	W	.....	.....	4	.....	6	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.98	761.5	30.07	763.6	74.3	23.5	56	W	4.3	1.9	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.05	763.2	30.10	764.4	83.5	28.6	34	SW	.....	.....	.....	.....	9	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.51	724.1	30.01	762.3	77.2	25.1	25	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.97	761.2	30.08	763.9	78.1	25.6	52	WNW	.....	.....	2	.....	2	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.92	760.0	30.09	764.3	80.6	27.0	27	N	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.56	750.7	30.14	765.6	79.9	26.6	49	SSW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.78	756.5	30.03	762.7	79.7	26.5	29	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.88	759.0	30.07	763.7	77.2	25.1	54	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.20	741.6	30.04	763.1	82.8	28.2	64	SW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.80	756.2	30.14	765.5	73.8	23.2	56	NE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.95	760.7	30.02	762.6	81.9	27.7	54	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.58	751.4	30.14	765.5	76.3	24.6	50	WSW	1.3	0.6	.....	.....	1	SW	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 879.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.65	753.1	29.85	758.2	79.3	26.3	84	SW	10.9	4.9	.....	.....	8ck;ks	.....	SW	0.285	7.24	Cloudy.....	The Observatory.
Tokei (Yeddo)	29.71	754.6	29.78	756.4	72.7	22.6	96	E	3.3	1.5	.....	.....	8s	.....	.....	0.020	0.51	Cloudy.....	
Tokei (Yeddo) University	29.66	753.4	29.75	755.7	73.7	23.2	98	Calm	0	0	.....	.....	9ks	.....	NW	0.43	10.9	Cloudy.....	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	26.01	660.1	29.94	760.4	60.8	16.0	89	NE	1.8	0.8	.....	0	9	.....	.....	0.72	18.2	Very cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	1.6	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	66.6	19.2	86	SSW	0.9	0.4	.....	0	10n	.....	.....	0.63	16.0	Very cloudy	Prof. M. Leal.
Mexico	23.07	686.0	30.03	762.6	58.6	14.8	83	SE	2.9	1.3	.....	6ck	0	W	.....	0.16	4.0	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.9	18.3	89	Calm	0	0	.....	0	10n	.....	.....	0.43	10.8	Covered	M. V. de Leon, M. E.
Puebla	23.32	592.2	29.95	760.8	57.2	14.0	95	SSE	6.0	2.7	.....	0	10n	.....	S	0.35	8.8	Rainy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.81	757.1	29.82	757.4	77.0	25.0	77	S	10.8	4.8	.....	3cs	0	S	.....	0	0	Clear.....	Prof. F. R. Bayly.
San Luis Potosi	24.16	612.8	30.06	763.4	63.0	17.2	62	E	1.8	0.8	.....	0	10n	.....	E	0.21	5.2	Covered	G. Barroeta, M. D.
Vera-Cruz	29.85	758.2	29.88	758.9	80.6	27.0	84	Calm	0	0	.....	2ck	5sk	SW	.....	0	0	Cloudy.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	E	5.1	2.3	.....	0	10	.....	NE	0.32	8.0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.30	591.8	30.03	762.8	57.7	14.3	72	NE	4.5	2.0	.....	0	10	.....	N	0.84	21.4	Rainy	Prof. P. Spina. [M. M. D. D
Morelia	24.04	610.5	.....	.....	66.2	19.0	60	S	1.8	0.8	.....	0	10k	.....	.....	0.10	2.5	Covered	M. Tena, F. L. Paramo,
Durango	24.30	617.3	30.11	764.9	68.0	20.0	91	Calm	0	0	.....	5c	0	.....	.....	0.08	2.1	Misty.....	M. V. de Leon, C. E.
Colima	28.34	719.8	29.97	761.3	77.0	25.0	82	Calm	0	0	.....	.....	10n	.....	.....	2.68	68.1	Rainy	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,771 m., or 5,810 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.00	761.9	30.00	761.9	68.7	20.4	.....	W	.....	.....	4	.....	.....	.....	.....	0.016	0.4	.....	
Groningen	29.83	757.7	29.89	759.1	64.9	18.3	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Helder	29.92	759.9	29.92	759.9	62.8	17.1	.....	W	.....	.....	4	.....	.....	.....	.....	0.008	0.2	.....	
Hellevoetsluis	29.93	760.2	29.93	760.2	66.6	19.2	79	WNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.90	759.5	29.95	760.7	70.3	21.3	68	W	.....	.....	4	.....	5	.....	.....	0.118	3.0	Cloudy.....	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. —10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.65	753.1	29.71	754.5	55.4	13.0	59	*NNW	20.4	9.1			0			0	0		
Brönö	29.59	751.5	29.63	752.5	55.4	13.0	64	NW	18	8			5			0	0		
Christiania	29.40	746.7	29.54	750.3	58.6	14.8	71	N	9	4			9					Light rain	
Tromsö	29.54	750.2	29.58	751.3	50.7	10.4	80	NE	4	2			10			0.244	6.2		

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.27	768.9	30.46	773.7	73.4	23.0	86	W	0.7	0.3			2			0	0		Dr. J. A. Sampaio.
Campo Major	29.07	738.3	30.01	762.2	96.4	35.8	28	WNW	7.4	3.3			10			0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.15	765.8	30.24	768.0	78.3	25.7	66	SW	6.9	3.1			0			0	0		Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.5	30.13	765.3	78.3	25.7	47	N	29.8	13.3			0			0	0		The Staff.
Ponta Delgada, (Azores)	30.39	772.0	30.46	773.7	80.2	26 8	72	SSE					5			0	0		

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

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias																			R. A. T. Pinha, Com'd.
D. Fernando																			A. M. de Sande, Com'd.
India																			A. D. Pedroso, Com'd.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, S. 7° 55′, E. 13° 02′			30.04	763.0	75.2	24.0		Calm			0	0				1		Blue sky	A. J. de Mattos, Com'd't.
Rio Douro, S. 25° 58′, E. 32° 37′			30.29	769.4	68.0	20.0		SE			5	5		E		2	ESE	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands			29.94	760.4	81.7	27.6		ESE			2	5		Calm		2	SE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′			29.92	760.0				WNW			2	10				1		D. clouds	F. Texeira da Silva, Com'd't.
Tejo																			E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.29	744.0	29.70	754.4	64.6	18.1	72	WSW	18	8			9ks						Astronomical Obs.
Wilna	29.15	740.5	29.56	750.7	66.6	19.2	40	W	2	1			8						Astronomical Obs.
Dorpat	29.20	741.7	29.43	747.6	66.9	19.4	59	NW	9	4			7c;ks						Prof. Dr. Weihrauch.
St. Petersburg	29.27	743.4	29.25	743.8	54.5	12.5	96	NW	13	6			10n					Light rain	Central Physical Obs.
Kuopio																			Ch. Forsten.
Kieff	28.95	735.2	29.55	750.6	67.1	19.5	51	WNW	9	4			4k;ks						Physical Cabinet.
Nikolaiev																			Kurdakof.
Kertch	29.84	757.9	29.86	758.4	67.8	19.9	89	SW	4	2			10					Raining	Lagorio.
Moscow	28.75	730.3	29.27	743.5	67.6	19.8	81	S	9	4			7ks						Meteorological Obs.
Lugan	29.36	745.7	29.56	750.7	66.9	19.4	65	S	13	6			9n						Meteorological Obs.
Archangel	29.22	742.1	29.24	742.6	84.6	29.2	84	ESE	2	1			6ks						Ogorodnikof.
Tiflis	28.43	722.2	29.76	756.0	83.3	28.5	35	NW	18	8			4cs					Light clouds	Physical Observatory
Astrakhan	29.85	758.1	29.76	756.0	81.9	27.7	34	WNW	7	3			1cs?					Thunder-storm?	Sebastianof.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.22	742.1	29.47	748.5	74.8	23.8	58	S	9	4			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.77	730.8	29.65	753.1	80.5	30.3	38	SE	7	3			3c;ck						Meteorological Obs.
Nukuss	29.50	749.3	29 72	754.8	95.5	35.3	35	NNE	13	6			0						
Kasaly																			Bobrof.
Tashkend	28.17	715.5	29.76	755.8	85.6	29.8	57	Calm	0	0			2						Michelson.
Barnaul	29.34	745.1	29.82	757.5	80.8	27.1	37	NE	22	10			0						Meteorological Obs.
Yeniseisk	29.51	749.6	29.79	756.7	72.1	22.3	42	WNW	13	6			3						Marks.
Irkutsk																			Usolzof.
Peking, (China)	29.46	748.3	29.60	751.9	77.5	25.3	65	Calm	0	0			10n						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.97	761.1	30.07	763.6	81.5	27.5	56	SW	5.7	2.56		2c				0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.14	765.6	30.20	767.0	79.7	26.5	54	NW	2.5	1.13		2		E		0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.24	692.0			77 0	25.0	37	NE	6.3	2.82						0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.87	707.9	29.95	760.7	99.1	37.3	22	W	1.5	0.67		0	1			0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.93	760.2	30.07	763.8	91.4	33.0	43	ENE	2.7	1.19						0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.33	744.9	30.21	767.2	70.7	21.5	68	NE	12.5	5.60			8			0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	759.9	29.98	767.5	86.4	30.2	77	Calm	0	0		2c	1k	E		0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands,																			Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	761.9	30.09	764.4	77.4	25.2	60	WSW	12.2	5.5		0	0			0	0		Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.87	758.6	29.96	760.9	85.3	29.6	94	E	11.8	5.26		3kn	5kn	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'rs

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er —10.	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.44	747.7	29.48	748.7	58.6	14.8	.....	S	.....	.....	2	.....	6	.....	.....	0	0	.....	
Umea	29.48	748.7	29.53	750.0	63.0	17.2	64	S	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	29.46	748.3	29.51	749.6	62.6	17.0	61	N	.....	.....	2	.....	4	.....	.....	0	0	.....	
Stockholm	29.32	744.7	29.50	749.2	62.1	16.7	78	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.45	748.0	29.51	749.5	64.0	17.8	78	WNW	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.41	747.1	29.49	749.0	62.6	17.0	66	ENE	9.4	4.2	.....	.....	10	SW	NNE	0.691	17.55	Raining	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.63	727.3	29.09	761.7	79.3	26.3	39	S	.....	.....	1	.....	6	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.42	721.9	30.02	762.4	72.5	22.5	63	W	.....	.....	2	.....	6	.....	.....	0.102	2.6	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.1 mm.; Thermometer, +4.0 cent.; Relative Humidity, —14 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.02	762.4	75.2	24.0	63	SW	8	3.5	.....	.....	3	.....	WSW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.2	77.9	25.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.73	755.1	29.84	758.0	85.1	29.5	63	W	.....	.....	2	.....	18	.....	E	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.70	754.4	30.00	762.0	71	21.7	.....	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.86	758.4	29.92	760.0	61	16.1	68	SW	1	0.4	.....	2ck	0	N	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.85	758.2	29.89	759.2	59	15.0	69	NW	8	3.6	.....	.....	8ks	.....	NW	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.94	760.5	68.3	20.2	67	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.75	755.6	29.91	759.7	60	15.6	75	W	.....	.....	2	.....	.....	.....	.....	0	0	Cloudy	H. A. Johnson.
Esquimault, B. C	29.93	760 2	29.98	761.5	52.3	11.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.88	758.9	29.90	759.4	55	12.8	68	SW	8	3.6	.....	2k	2s	NW	Calm	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	29.91	759.7	29.97	761.2	62.1	16.7	61	NW	1	0.4	.....	8ck	0	N	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	28.89	733.8	29.68	753.9	67	19.4	97	W	4	1.8	.....	5k	5n	W	W	0.395	10.04	Cloudy	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.95	735.3	30.00	762.0	73	22.8	90	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.78	756.4	29.91	759.7	57	13.9	68	NW	10	4.5	.....	2ck	0	NW	.....	0.030	0.76	Fair	F. Allison, M. A.
Hamilton, Ontario	29.67	753.6	30.02	762.5	78.7	25.9	64	SW	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.62	752.3	29.64	752.8	45	7.2	88	NE	.....	.....	2	.....	10	.....	.....	0.46	11.7	Raining	E. Weedon.
*Kingston, Ontario	29.69	754.1	30.01	762.2	72	22.2	84	S	8	3.6	.....	Haze	Sm'e	.....	S	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.81	757.2	29.85	758.2	54.0	12.2	.....	N	10	4.5	.....	4k	0	N	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.75	755.6	29.94	760.5	69	20.6	66	W	8	3.6	.....	0	Sm'e	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	29.99	761.7	73	22.8	88	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.35	745.5	30.02	762.5	71	21.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.40	746.7	30.01	762.2	75	23.9	86	W	2	0.9	.....	Haze	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.65	753.1	29.90	761.0	56	13.3	81	Calm	.....	.....	0	.....	Sm'e	.....	.....	0	0	Smoky	Capt. Ashe, R. N
*Rockliffe, Ontario	29.51	749.5	29.94	760.5	76	24.4	60	NW	4	1.8	.....	Haze	0	.....	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.91	759.7	29.96	761.0	60	15.6	72	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.82	757.4	29.98	761.5	57	13.9	69	S	4	1.8	.....	1k	0	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.30	744.2	29.98	761.5	74	23.3	71	S	3	1.3	.....	2cs	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.78	731.0	30.01	762.2	69.8	21.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.83	757.7	29.86	758.4	54	12.2	87	NW	6	2.7	.....	5k	2ks	N	N	0.05	1.3	Fair	T. C. Hill.
*Toronto, Ontario	29.65	753.1	30.01	762.2	74	23.3	72	NW	2	0.9	.....	Haze	Haze	.....	Calm	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	46.0	7.8	100	N	.....	.....	.....	.....	5n	.....	.....	1.16	29.5	Rain & fog	John Delany.

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

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. To—n—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.81	757.2	30.03	762.7	64	17.8	63	N	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.28	743.7	29.89	759.2	75	23.9	68	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Atlantic City, New Jersey	30.02	762.5	30.04	763.0	72	22.2	90	NE	7	3.1	.....	0	Fog	.....	Calm	0	0	Fair	
Augusta, Georgia	29.85	758.2	30.03	762.7	86	30.0	68	S	1	0.4	.....	2c	0	Calm	.....	0	0	Clear	
Baltimore, Maryland	29.97	761.2	30.01	762.2	77	25.0	49	N	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	30.02	762.5	30.04	763.0	75	23.9	76	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Hazy.	
Bismarck, Dakota	28.12	714.2	29.98	761.5	60	15.6	77	W	2	0.9	.....	2c	0	SW	.....	0.34	8.6	Clear	
BoiseCity, Idaho	27.14	689.3	30.02	762.5	54	12.2	67	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.88	758.9	30.03	762.7	66	18.9	69	W	8	3.6	.....	9cs;bz.	Haze	Calm	Calm	0	0	Hazy	
Brackettville, Texas	28.81	731.8	29.80	756 9	78	25.6	73	SE	8	3.6	.....	10cs	0	SE	.....	0	0	Cloudy	
Breckenridge, Minnesota	28.82	732.0	29.76	755 9	68	20.0	95	S	5	2.2	.....	.....	10n	.....	S	0.29	7.4	Light rain	
Brownsville, Texas	29.84	757.9	29.90	759.4	80	26.7	91	SE	3	1.3	.....	2c	2ks	Calm	SE	0.12	3.0	Fair	
Buffalo, New York	29.33	745.0	30.00	762.0	72	22.2	71	S	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	75	23.9	37	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.74	755.4	30.00	762.0	67	19.4	46	S	6	2.7	.....	Haze	Haze	.....	.....	0	0	Hazy	
Cairo, Illinois	29.61	752.1	29.99	761.7	77	25.0	86	SW	5	2.2	.....	.....	10s	.....	SW	0.31	7.9	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	58	14.4	70	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp Grant, Arizona	25.16	639.0	29.96	761.0	75	23.9	33	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.68	677.7	30.17	766.3	64	17.8	21	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.29	693.2	29.86	758.4	42	5.6	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.04	763.0	30.04	763.0	79	26.1	78	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.99	761.7	30.01	762.2	73	22.8	85	SE	4	1.8	.....	0	8s	.....	SW	0	0	Fair	
Cape Lookout, N. Carolina	30.02	762.5	30.04	763 0	81	27.2	63	E	7	3.1	.....	0	Haze	.....	.....	0	0	Fair	
Cape May, New Jersey	30.00	762.0	30.03	762.7	75	23.9	81	S	7	3.1	.....	0	Haze	.....	Calm	0	0	Hazy.	
Charleston, South Carolina	30.00	762.0	30.06	763.5	82	27.8	75	N	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	54	12.2	87	Calm	0	0	.....	2ck	0	W	.....	0.10	2.5	Clear	
Chicago, Illinois	29.27	743.4	29.92	760.0	76	24.4	77	SW	4	1.8	.....	10k	0	S	.....	0	0	Cloudy	
Cincinnati Ohio	29.31	744.5	29.93	760 2	79	26.1	72	E	2	0.9	.....	2k	4s	S	S	0	0	Fair	
Cleveland, Ohio	29.31	744.5	30.00	762.0	73	22 8	72	SE	6	2.7	.....	5cs	Haze	Calm	Calm	0	0	Fair	
Columbus, Ohio	29.17	740.9	29.93	760.2	78	25.6	69	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Fair	
Concho, Texas	28.05	712.5	29.64	752.8	74	23.3	81	SE	.....	.....	1	10k	0	SE	.....	0	0	Cloudy	
Corsicana, Texas	29.52	749.8	29.98	761.5	72	22.2	95	S	4	1 8	.....	0	8s	.....	S	0.55	14.0	Fair	
Davenport, Iowa	29.31	744.5	29.92	760.0	76	24.4	77	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.16	740 7	29.92	760.0	76	24.4	82	SE	8	3.6	.....	2k	0	SE	.....	0	0	Fair	
Denver, Colorado	24.83	630.7	30.05	763.3	61	16.1	71	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Cloudy	
Detroit, Michigan	29.32	744.7	29.95	760.7	75	23.9	72	E	3	1.3	.....	5ck	2s	Calm	Calm	0	0	Fair	
Dodge City, Kansas	27.32	693.9	29.49	749.0	72	22.2	80	S	16	7.2	.....	5ck	8s	W	Calm	0	0	Cloudy	
Dubuque, Iowa	29 23	742.4	29.89	759.2	75	23.9	77	SE	4	1.8	.....	1ck	Haze	Calm	Calm	0	0	Fair	
Duluth, Minnesota	29.14	740.1	29.77	756.1	71	21.7	95	Calm	0	0	.....	.....	10ks	.....	Calm	Inap.	Inap.	Cloudy	
Eagle Pass, Texas	29.06	738.1	29.76	755.9	76	24 4	91	SE	4	1.8	.....	10k	0	S	.....	0	0	Cloudy	
Eastport, Maine	29.88	758.9	29.94	760.5	56	13.3	75	S	2	0.9	.....	5ck	Haze	N	Calm	Inap.	Inap.	Fair	
El Paso, Texas	.....	.....	.....	.....	82	27.8	49	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.30	744.2	29.98	761.5	77	25.0	61	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.30	744.2	29.92	760.0	77	25.0	65	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	69	20.6	27	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.1	.....	
Fort Davis, Texas	25.18	639.6	30.14	765.5	72	22.2	63	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.40	746.7	29.90	759.4	78	25.6	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.65	727.7	29.86	758.4	72	22.2	90	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.68	728.9	29.71	754.6	77	25.0	86	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	82	27.8	83	S	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Grand Haven, Michigan	29.33	745.0	29.94	760.5	77	25.0	69	S	4	1.8	.....	0	8s	.....	Calm	0	0	Fair	
Indianapolis, Indiana	29.19	741.4	29.93	760.2	75	23.9	81	E	3	1.3	.....	0	8s	.....	Calm	0.38	9.7	Cloudy	
Indianola, Texas	30.00	762.0	30.03	762.7	73	22.8	90	SW	11	4.9	.....	.....	10n	.....	Calm	0.26	6.6	Light rain	
Jacksboro, Texas	28.82	732.0	29.90	759.4	74	23.3	90	S	11	4.9	.....	.....	10s	.....	S	0	0	Cloudy	
Jacksonville, Florida	29.98	761.5	30.00	762.0	85	29.4	64	NE	8	3.6	.....	2k	0	NE	.....	0	0	Fair	
Keokuk, Iowa	29.28	743.7	29.86	758.4	79	26.1	74	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.93	760.2	29.96	761.0	84	28.9	75	NW	5	2.2	.....	5c;k	1ks	Calm;NW	Calm	0	0	Fair	
Kittyhawk, North Carolina	30.01	762.2	30.03	762.7	77	25.0	82	SW	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	
Knoxville, Tennessee	29.05	737.9	30.01	762.2	77	25.0	82	Calm	0	0	.....	2ck	0	Calm	.....	Inap.	Inap.	Clear	
La Crosse, Wisconsin	29.18	741.2	29.86	758.4	78	25.6	73	S	4	1.8	.....	2k	0	SE	.....	0	0	Clear	
La Mesilla, New Mexico	25.98	659 9	30.13	765.3	66	18.9	84	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Laredo, Texas	29.49	749.0	29.82	757.4	78	25.6	78	E	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Lead City, Dakota	24.83	630.7	.....	.....	53	11.7	67	N	2	0.9	.....	10k	0	N	.....	0	0	Cloudy	
Leavenworth, Kansas	29.05	737.9	29.85	758.2	73	22.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.49	749.0	29.82	757.4	59	15.0	91	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.41	747.0	29.94	760.5	78	25.6	73	SE	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.32	744.7	29.96	761.0	81	27.2	62	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Clear	
Marquette, Michigan	29.19	741.4	29.84	757.9	80	26.7	59	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.34	719.8	30.04	763.0	76	24.4	76	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Memphis, Tennessee	29.70	754.4	30.01	762.2	77	25.0	86	SW	2	0.9	.....	2ck	0	SW	.....	0	0	Fair	
Milwaukee, Wisconsin	29.24	742.7	29.93	760.2	74	23.3	72	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.99	761.7	30.04	763.0	80	26.7	82	SW	5	2.2	.....	5k	5s	W	Calm	0	0	Cloudy	
Montgomery, Alabama	29.80	756.9	30.02	762.5	81	27.2	78	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	28.97	735.8	29.98	761.5	74	23.3	72	Calm	0	0	.....	2c	Sm'c	W	Calm	0	0	Fair	
Mt. Washington, N. H.	23.89	606.8	30.25	768.3	45	7.2	45	N	19	8.5	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Nashville, Tennessee	29.49	749.0	30.00	762.0	79	26.1	78	SE	2	0.9	.....	5ck	2s	Calm	Calm	0.15	3.8	Fair	
New Haven, Connecticut	29.94	760.5	30.06	763.5	65	18.3	68	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
New London, Connecticut	30.01	762.2	30.06	763.5	66	18.9	79	Calm	0	0	.....	Haze	5s;fg	Calm	Calm	0	0	Hazy	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	80	26.7	82	Calm	0	0	.....	5ck	2ks	Calm	Calm	0.07	1.8	Fair	
Newport, Rhode Island	29.99	761.7	30.04	763.0	69	20.6	80	S	4	1.8	.....	7k	0	.....	.....	0	0	Fair	
New York, New York	29.90	759.4	30.07	763.8	74	23.3	47	N	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Norfolk, Virginia	29.98	761.5	30.04	763.0	79	26.1	70	S	4	1.8	.....	8cs;k	Haze	Calm	.....	0	0	Hazy	
North Platte, Nebraska	27.07	687.6	29.55	750.6	63	17.2	92	NE	4	1.8	.....	5k	0	NE	.....	1.34	34.0	Clearing	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	51	10.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.77	730.7	29.78	756.4	77	25.0	77	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.72	754.9	30.02	762.5	71	21.7	58	S	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Pembina, Dakota	28.91	734.3	29.69	754.1	66	18.9	95	W	10	4.5	.....	.....	10s	.....	W	0.94	23.9	Cloudy	
Philadelphia, Pennsylvania	29.98	761.5	30.03	762.7	72	22.2	62	NE	8	3.6	.....	0	Sm'c	.....	Calm	0	0	Fair	
Phœnix, Arizona	28.60	726.4	.....	.....	90	32.2	28	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.01	457.4	30.22	767.6	36	2.2	45	SW	20	8.9	.....	2k	0	Calm	.....	0	0	Clear	
Ploche, Nevada	24.06	611.1	29.82	757.4	52	11.1	23	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.21	741.9	29.99	761.7	69	20.6	90	N	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.33	745.0	29.95	760.7	75	23.9	68	Calm	0	0	.....	8ck	Sm'e	W	.....	0	0	Fair	
Portland, Maine	29.93	760.2	29.98	761.5	62	16.7	72	W	8	3.6	.....	10k;hz	Haze	Calm	.....	0	0	Hazy	
Portland, Oregon	29.93	760.2	30.03	762.7	56	13.3	87	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.68	626.7	30.04	763.0	51	10.6	28	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Rassa, Florida	29.94	760.5	29.96	761.0	81	27.2	87	W	5	2.2	.....	.....	10s	.....	W	1.10	27.9	Cloudy	
Red Bluff, California	29.44	747.8	29.79	756.7	68	20.0	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.41	747.0	30.00	762.0	72	22.2	67	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.43	747.5	29.99	761.7	52	11.1	96	Calm	0	0	.....	2cs	0	NE	.....	0	0	Clear	
Sacramento, California	29.72	754.9	29.80	756.9	60	15.6	71	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.92	760.0	74	23.3	90	Calm	0	0	.....	.....	10s	.....	Calm	1.07	27.2	Cloudy	
St. Marks, Florida	29.99	761.7	30.01	762.2	80	26.7	87	NE	8	3.6	.....	5ck	0	NW	.....	0	0	Fair	
St. Paul, Minnesota	29.00	736.6	29.77	756.1	74	23.3	85	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	56	13.3	35	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.27	743.4	29.84	757.9	76	24.4	73	SE	2	0.9	.....	.....	10s	.....	SE	0.94	23.9	Cloudy	
San Diego, California	29.77	756.1	29.84	757.9	63	17.2	83	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.34	745.2	29.98	761.5	76	24.4	64	E	6	2.7	.....	10c	0	NE	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	69	20.6	70	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Hazy	
San Francisco, California	29.78	756.4	29.85	758.2	54	12.2	87	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	60	15.6	55	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.96	761.0	30.05	763.3	78	25.6	86	SE	2	0.9	.....	5k	0	SE	.....	0	0	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	76	24.4	91	S	1	0.4	.....	.....	10s	.....	S	1.74	44.2	Cloudy	
Silver City, New Mexico	24.28	616.7	30.26	768.6	62	16.7	83	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.02	762.5	30.06	763.5	80	26.7	96	E	9	4.0	.....	2ck	0	N	.....	0.56	14.2	Fair	
Springfield, Massachusetts	29.87	758.7	30.00	762.0	63	17.2	72	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Fair	
Stockton, Texas	26.86	682.2	29.86	758.4	69	20.6	35	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.96	761.0	30.01	762.2	64	17.8	73	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.29	744.0	29.93	760.2	80	26.7	62	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Tucson, Arizona	27.37	695.2	29.92	760.0	72	22.2	26	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.00	762.0	30.03	762.7	81	27.2	87	NE	6	2.7	.....	2cs	2ks	NE	NE	0	0	Fair	
Umatilla, Oregon	29.64	752.8	.....	.....	60	15.6	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.80	756.9	30.05	763.3	75	23.9	90	Calm	0	0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Virginia City, Montana	24.33	618.0	29.81	757.2	45	7.2	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.45	748.0	29.81	757.2	59	15.0	76	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.92	760.0	30.03	762.7	70	24.4	52	NE	9	4.0	.....	0	Haze	.....	.....	0	0	Hazy	
Wickenburg, Arizona	.....	.....	.....	.....	64	17.8	.....	Calm	.....	.....	0	0	0	.....	.....	Inap	Inap.	Clear	
Wilmington, N. Carolina	29.96	761.0	30.04	763.0	81	27.2	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.57	649.5	29.93	760.2	53	11.7	81	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.98	761.5	30.03	762.7	67	19.4	69	SW	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yankton, Dakota	28.60	726.4	29.82	757.4	69	20.6	85	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Yuma, Arizona	29.46	748.3	29.61	752.1	73	22.8	59	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.17	740.9	29.22	742.2	68.0	20.0	72	NW	16	7.2	.....	2k	0	SW	.....	1.20	30.5	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.92	760.0	29.94	760.5	86	30.0	75	Calm	0	0	.....	4c	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	30.12	765.0	30.13	765.3	85	29.4	79	Calm	0	0	.....	8c	2s	Calm	E	0	0	.....	James Gall.
Navassa, W. I.	29.87	758.7	29.95	760.7	84	28.9	.....	E	4	1.8	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.00	762.0	30.00	762.0	79	26.1	91	E	.....	.....	1	7ks	4s	E	.....	0.040	1.02	½ cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.21	640.3	.....	.....	66.8	19.3	85	Calm	0	0	.....	8ck	2ks	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,893 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.8 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,550 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,320.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.04 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.81	757.2	56	13.3	53.5	11.9	93	SSW	21	9.4	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
Navy Yard, Pensacola, Fla.	30.16	766.1	83	28.3	83	28.3	86	NW	2	0.9	.....	.....	5	.....	NE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.98	761.5	82	27.8	64	17.8	30	SW	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan.....	29.79*	756.7*	75	23.9	74.2	23.4	95	Calm	.....	.....	0	.....	9k;s	.....	WNW	0.18	4.6	.....	.....	Cloudy.....	
Alliance, N. 42° 04′, W. 9° 20′.....	30.22‡	767.6‡	.....	.....	67	19.4	89	N	.....	.....	4–5	.....	2	.....	N	.....	.....	Mod'ate	N	Misty.....	
Ashuelot, Nagasaki, Japan.....	29.92	760.0	82	27.8	80	26.7	96	SSW	.....	.....	4	.....	5	.....	SSW	.....	.....	.....	.....	Fair	
Alaska, N. 10° 02′, W. 36° 29′.....	30.07	763.8	81	27.2	80	26.7	70	ENE	.....	.....	4	.....	6	.....	NE	.....	.....	Long	NE	Cloudy.....	
Canonicus, New Orleans, La.....	30.04	763.0	59	13.3	79	26.1	86	Var.	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y.....	30.06‡	763.5‡	.....	.....	71	21.7	75	NNE	4	1.8	....	.....	8	.....	NE	0	0	.....	.....	Hazy	
Constellation, N. 39° 54′, W. 73° 56′.....	30.14‡	765.5‡	.....	.....	71	21.7	90	N	.....	.....	3	.....	2	.....	N	.....	.....	Smooth	.....	Clear.....	
Constitution, Havre, France.....	30.05‡	763.3‡	.....	.....	62	16.7	94	W	.....	.....	3	.....	8	.....	Calm	.....	.....	.....	.....	Pleasant.....	
Despatch, Prince's Islands, Sea of Marmora	29.99‡	761.7‡	.....	.....	73	22.8	72	SW	.....	.....	3	.....	2	.....	SW	.....	.....	Smooth	.....	Clear.....	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.92‡	760.0‡	.....	.....	80	26.7	100	Calm	.....	.....	0	.....	8	.....	SE	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.....	30.15	765.8	76	24.4	77	25.0	73	S	3	1.3	.....	.....	2	.....	NNE	0	0	.....	.....	Clear	
Gettysburg Alexandria, Egypt.....	29.85‡	758.2‡	.....	.....	80	26.7	??	NNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Guard, Rio de Janeiro, Brazil.....	30.14	765.5	72	22.2	71	21.7	85	NNW	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Misty.....	
Hartford, Rio de Janeiro, Brazil ...	30.11	764.8	.....	.....	72	22.2	85	NNW	2.4	1.1	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.	
Marion, Villefranche, France	30.07	763.8	74	23.3	74	23.3	68	NE	.....	.....	2	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Michigan, Erie, Pa.....	29.53	750.0	75	23.9	73	22.8	68	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Yokohama, Japan	29.78‡	756.4‡	.....	.....	76	24.4	86	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.22†	767.6†	.....	.....	82	27.8	79	N	4	1.8	.....	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Onward, Callao, Peru.....	30.07†	763.8†	.....	.....	62	16.7	88	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Che-foo, China.....	29.75	755.6	72	22.2	71	21.7	100	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Smooth	.....	Cloudy.....	
Pensacola, Mare Island, California	29.94	760.5	61	16.1	56	13.3	87	S	15	6.7	.....	.....	7	.....	.....	.....	.....	.....	.....	Cloudy	
Plymouth, New York, N. Y.....	30.07‡	763.8‡	.....	.....	72	22.2	57	NE	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger, Hong-Kong, China.....	30.01*	762.2*	.....	.....	86	30.0	83	Calm	.....	.....	0	.....	1	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas.....	29.88	758.9	80	26.7	80	26.7	96	NNE	.....	.....	2	.....	9	.....	WNW	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md...	30.01‡	762.2‡	.....	.....	76	24.4	64	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Hazy..	
St. Louis, League Island, Pa	30.00	762.0	73	22.8	72	22.2	76	ENE	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Misty.....	
Supply, Havre, France.....	30.15	765.8	65	18.3	65	18.3	84	NW	.....	.....	1	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.....	30.03‡	762.7‡	.....	.....	65	18.3	94	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Trenton, Leghorn, Italy	30.06‡	763.5‡	.....	.....	76	24.4	82	W	.....	.....	2	.....	5	.....	W	0	0	.....	.....	Fair	
Tuscarora, N. 17° 48′, W. 101° 48′.....	29.69	754.1	76	24.4	76	24.4	95	E	.....	.....	1	.....	8	.....	S	3.55	90.2	Mod'ate	SSW	Fair.....	
Vandalia, Smyrna, Turkey.....	29.93‡	760.2‡	.....	.....	79	26.1	58	W	.....	.....	3	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.....	30.00‡	762.0‡	.....	.....	74	23.3	63	W	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wyoming, N. 64° 00′, W. 28° 50′.....	29.79	756.7	67	19.4	57	13.9	87	SW	.....	.....	5	.....	10	.....	SW	.....	.....	Smooth	SW	D.clouds.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10	Upper. From —	Lower. From —					
S. S. Alaska																			
S. S. China, N. 30° 54′, E. 130° 40′		29.95*	760.7*	81	27.2	100	SW			4		5		SW	0	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.12*	765.0*				NW			2		3		NW				Fair	Capt. Seabury.
S. S. City of Peking, N. 40° 10′, W. 129° 22′		30.24†	768.1†	58	14.4	88	N	17	7.6			10		N		Small	N	Overcast	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10	Upper. From —	Lower. From —					
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		30.06*	763.6*	83	28.3		Calm			0					0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 51° 05′, W. 24° 25′		30.26†	768.6†	58	14.4?	?	Var.			4				W	14hours	Strong	W	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10	Upper. From —	Lower. From —					
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 31° 00′ E. 132° 28′		29.84*	757.9*	83	28.3	100	SW			3		cs		SW	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10	Upper. From —	Lower. From —					
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 50° 11′, W. 10° 39′		30.16	766.1	64.0	17.8	76	NNW			6		8		NW	Blank		NW	Rough	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.20*	767.1*	65	18.3	84	SW			6		9		SW	Light			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.03	762.7	72	22.2	85	N			2		8		N	0			Clear?	Captain Morrison.
S. S. Pennsylvania, St. George's Channel		30.09†	764.3†	63	17.2	100	WSW			1		6		WSW	0	Smooth		Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°, W. 66°		29.42*	747.3*	36.8	2.7	91	Calm			0		10s			1.00 in. or 25.4 mm.			Misty	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 8, 1878.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.02	762.5	69.3	20.7	82	NE	.....	.....	6	.....	0	.....	.....	0	0	Clear.	Dr. Ollive.
Nemours	.....	.....	29.96	761.0	78.3	25 7	61	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Michel.
Algiers	.....	.....	29.89	759.3	78.8	26.0	78	ENE	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Tourlliere.
La Calle	.....	.....	29.95	760.6	75.2	24.0	82	ENE	.....	.....	4	.....	3	.....	.....	0	0	Pretty fair.	Foufrede.
Tunis	.....	.....	29.99	761.7	93.9	34.4	.....	SE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.10	764.5	86.0	30.0	.....	SSE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair.	Gau.
Saida	.....	.....	30.11	764.7	90 3	32.4	25	NNE	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.07	763.8	.....	.....	.....	SE	.....	.....	3	.....	7	.....	.....	Blank	Blank	Very cloudy	Watrin.
Geriville	.....	.....	30.04	762 9	88 0	31.1	.....	SE	.....	.....	4	.....	1	.....	.....	0	0	Very fair	Brugniaux.
Laghouat	.....	.....	30.00	762.1	95 4	35.2	12	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.04	763.0	98.6	37 0	.....	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

Agram	29.37	746.1	29.89	759.3	80.8	27.1	47	SW	.....	.....	4	.....	6	.....	.....	0.016	0.4	.....	Prof. Ivan Stozi.
Cracow, I. R. Observatory	29.14	740.1	29.88	759.0	70.5	21.4	64	W	.....	.....	1	.....	6	.....	.....	0	0	.....	Dr. Wierzbiski.
Eperies	28.99	736.3	29.82	757.5	75.9	24.4	53	S	.....	.....	4	.....	10ks	.....	NE	0	0	.....	Julius Mikolik.
Gratz	28.71	729.3	29.02	760.0	68.9	20.6	88	NW	.....	.....	2	.....	10	.....	.....	0.079	2.00	.....	Andreas Rospini.
Hermannstadt	28.63	724.7	29.88	759.0	77.7	25.4	49	W	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.56	725.4	29.85	758.3	68.4	20.2	73	Calm	.....	.....	0	.....	10	.....	.....	0.689	17.5	.....	Prof. C. Wagner
Lemberg	28.88	733.5	29.83	757.7	67.1	19.5	80	SW	.....	.....	1	.....	9	.....	.....	0.146	3.7	.....	Dr. T. Stanecki.
Pola	29.83	757.6	29.94	760.4	80.1	26.7	64	SE	.....	.....	2	.....	4cs	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.60	749.2	29.94	760.5	77.0	25 0	54	SW	.....	.....	3	.....	5	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vienna	29.86	758.4	29.90	761.0	75.6	24 2	66	N	.....	.....	1	.....	10	.....	.....	0.114	2.9	Raining	P. Busin.
	29.24	742 8	29.93	760.3	72 3	22.4	62	S	.....	.....	2	.....	10	.....	.....	0.008	0.2	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

Arlon	28.56	725.5	30.02	762.6	69.4	20.8	44	NW	.....	.....	3	.....	9	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.84	758.0	30.04	763.0	63.1	17.3	75	W	.....	.....	1	.....	10	.....	WNW;W	0.008	0.20	Light rain	Royal Observatory
Furnes	30.10	764.6	30.13	765.2	68.2	20.1	68	WNW	.....	.....	2	.....	4	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.92	760.0	30.03	763.2	64.9	18.3	73	WNW	.....	.....	2	.....	5	.....	.....	0.047	1.2	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

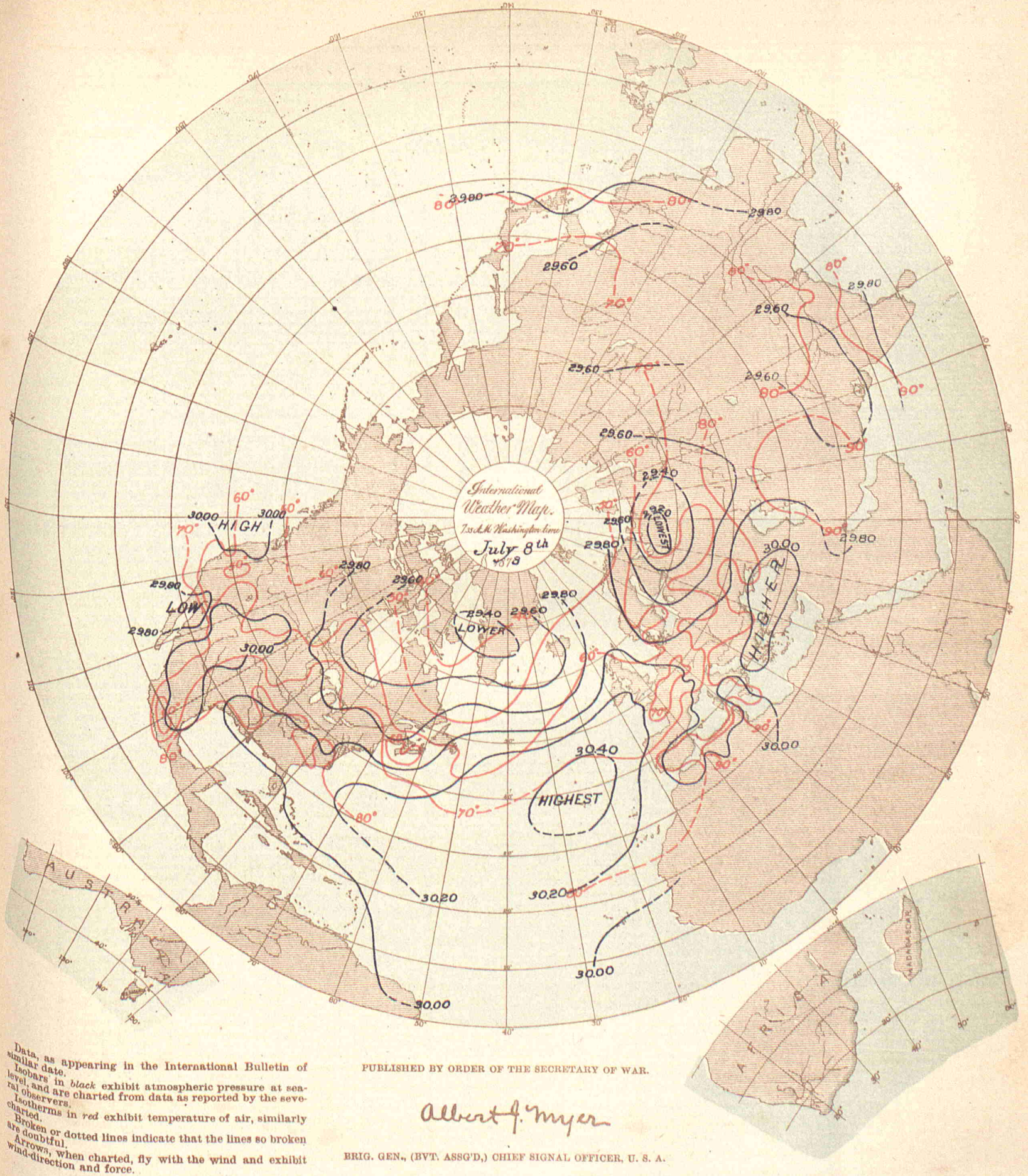
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.99	761.7	30.08	764.0	60.0	15.6	.....	SE	11	4.9	.....	.....	3	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.09	764.3	30.11	764.8	65	18.3	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	30.18	766.6	65.0	18.3	.....	NW	5	2.2	.....	.....	8	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.15	765.8	62.2	16 8	.....	W	14	6.3	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.22	767.6	67.6	19.8	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.72	754.9	30.12	765 0	66.4	19.1	.....	W	.....	.....	1	.....	5	.....	.....	0	0	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.96	761.0	84	28.9	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.10	764.5	67.0	19.4	.....	NNE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.13	765.3	69.0	20.6	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	29.96	761.0	30.08	764.0	68.2	20.1	.....	S	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds....	Lt. W. G. Morris, R. E.
Dartmoor	28.72	729.5	30.16	766.1	64.0	17.8	.....	NW	.....	.....	2	.....	6	.....	.....	.....	.....	Gloomy.....	Alexander Watt.
Donaghadee	30.14	765.5	30.17	766.3	62	16.7	.....	NW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.08	761.0	30.11	764.8	64	17.8	.....	E	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	30.10	764.5	67.0	19.4	.....	NW	1.0	0.4	.....	.....	8	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.97	761.2	30.19	766.8	65.6	18.7	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.52	699.0	29.82	757.4	75.0	23.9	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.71	754.6	29.94	760.5	82	27.8	.....	W	.....	.....	0	.....	3	.....	.....	.....	.....	Blue sky.....	
Galway, Queen's College	.....	.....	30.19	766.8	63	17.2	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.87	758.7	29.92	760.0	76.3	24.6	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.89	759.2	30.09	764.3	67.1	19.5	.....	WNW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	30.12	765.0	30.12	765.0	63	17.2	.....	NNE	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.93	760.2	30.10	764.5	68.9	20.5	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.92	760.0	30.13	765.3	67	19.4	.....	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.21	767.3	70	21.1	.....	NW	.....	.....	4	.....	2c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.14	765.5	30.19	766.8	63	17.2	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.87	758.7	30.16	766.1	67.0	19.4	.....	N	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	J. Fisher.
Kew, Observatory	.....	.....	30.10	764.5	66.6	19.2	.....	N	12	5.4	.....	.....	9	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	30.18	766.6	30.21	767.3	64	17.8	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	30.11	764 8	66.1	18.9	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.95	760.7	30.02	762.5	78	25.6	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt A. H. C.
Nairn	29.92	760.0	30.07	764.8	62	16.7	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	83.5	28.6	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.95	760.7	30.13	765.3	70.1	21.2	.....	N	.....	.....	2	.....	5k	.....	NNW	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.60	751.8	30.12	765.0	63.0	17.2	.....	N	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.12	765.0	67	19 4	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H.E. Bellamy.
Plymouth	30.08	764.0	30.15	765.8	68.0	20.0	.....	N	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	30.18	766.6	30.22	767 6	66	18.9	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	30.03	762.7	30.19	766.8	63	17.2	.....	N	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.05	763.3	58	14.4	.....	SW	18	8.0	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.97	761.2	80.6	27.0	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.86	758.4	30.13	765.3	68.3	20.2	.....	N	.....	.....	1	.....	6	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	30.08	764.0	30.12	765.0	76.4	24.7	50	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.72	754.9	30.13	765.3	68.8	20.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Stornoway, Lewis (Hebr.)	30.01	762.2	30.04	763.0	64	17.8	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	29.90	759.4	30.12	765.0	70.3	21.3	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	Rev. C. H. Griffith, F.M.S.
Thurso	.....	.....	30.05	763.3	60	15.6	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	30.20	767.1	71	21.7	.....	N	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.29	769.4	61.9	16.6	.....	NW	10	4.5	.....	.....	10	.....	.....	.....	.....	D. clouds..	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.91	760.5	55.0	12.8	81	NW	.....	.....	3	.....	5k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	70.0	21.1	64	SE	14.0	6.3	.....	6	4	NNW	SE	0	0	Fine; cloudy	C. Meldrum.
Melbourne, Observatory	30.22	767.6	30.31	769.9	46.0	7.8	78	N	12	5.4	.....	.....	7	.....	W	0	0	Lunar halo.	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngahusband.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Barnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 39° 20′ W. 70° 45′	2	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 61° 12′. W. 48° 10′	.....	.....	Foggy.....	Capt. Alex Simpson.
Barque Virginia, N. 44° 45′, W. 50° 45′	5	Con-fused.	D. clouds.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.21	665.7	.....	.....	68.4	20.2	86	NE	.....	.....	1	5c	4ck;hz	.....	.....	0	0	.....	Federico Maison

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

DANISH SERIES.

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

Copenhagen	29.71	754.6	29.76	755.8	63.3	17.4	62	NW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	
Fanöe	29.83	757.6	29.85	758.1	57.4	14.1	67	NW	.....	.....	6	.....	9	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.38	746.3	29.43	747.4	41.5	5.3	89	S	.....	.....	8	.....	10	.....	.....	.....	.....	Raining	
Stykkisholm, (Iceland)	29.49	749.1	29.54	750.2	56.5	13.6	74	S	.....	.....	4	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.89	759.3	29.93	760.2	58.1	14.5	84	W	.....	.....	3	.....	3	.....	.....	.....	.....	.....	
Vestervig	29.64	752.9	29.81	757.2	61.2	16.2	85	NW	.....	.....	4	.....	4	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.60	751.8	30.15	765.8	68.0	20	60	NE	.....	.....	4	.....	5	.....	N	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.04	763.1	30.15	765.8	70.5	21.4	63	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bonvallet, Director.
Avignon, Normal School	29.85	758.2	29.93	760.2	81.5	27.5	45	N	.....	.....	2	.....	2	.....	NW	0	0	Partly cl'dy	Mr. Giraud, Director.
Bar-sur-Seine	29.50	749.2	30.05	763.2	71.1	21.7	51	NE	.....	.....	2	.....	8kn	.....	NE	0.012	0.3	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.82	757.4	30.10	764.5	67.8	19.9	83	Calm	.....	.....	0	.....	10	.....	NNW	0.069	1.75	Covered	Normal School.
Besançon	29.17	741.0	30.04	763.1	67.6	19.8	84	W	.....	.....	3	.....	10	.....	SW	0.764	19.4	Covered	Normal School.
Bourg-en-Bresse	29.17	740.8	30.10	764.6	73.2	22.9	64	N	.....	.....	6	.....	5kn	.....	N	0.16	4.	Cloudy	Normal School.
Bourges, Normal School	29.49	749.1	30.09	764.2	71.2	21.8	59	NNE	.....	.....	1	.....	k	.....	NNE	0.008	0.2	.....	A. Wagner, Director.
Brest, Naval Observatory	29.87	758.8	30.12	765.0	68.7	20.4	72	NNE	.....	.....	2	.....	6k	.....	NE	0.079	2.00	.....	The Staff.
Carcassonne, Normal School	29.65	753.1	30.06	763.4	73.8	23.2	59	W	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.47	748.5	30.02	762.4	71.6	22	92	N	.....	.....	3	.....	10	.....	S	0.008	0.2	Covered	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.05	763.3	71.2	21 8	64	Calm	.....	.....	0	.....	5ck	.....	.....	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.70	729.0	30.01	762.3	68.0	20.0	80	NE	.....	.....	2	.....	10	.....	N	0.008	0.2	Covered	Alluard, Director.
Commercy, Normal School	29.18	741.2	30.04	762.9	68.4	20.2	62	NW	.....	.....	4	.....	2	.....	SE	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grèasque*	28.91	734.2	30.05	763.2	79.2	26.2	30	NW	.....	.....	4	.....	2	.....	NW	0	0	¾ Covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.91	759.8	30.12	765.0	73.8	23.2	65	WNW	.....	.....	2	.....	0	.....	.....	0.047	1.2	Clear	Mouillot, Director.
Le Mans, Normal School	29.85	758.3	30.16	766.0	69.8	21	63	N	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.14	740.2	30.01	763.0	64.9	18.3	78	N	.....	.....	3	.....	10	.....	.....	1.276	32.40	Covered	Baudry, Director.
Lorient, Naval Observatory	30.05	763.3	30.15	765.9	69.4	20.8	71	S	.....	.....	2	.....	2	.....	S	0.370	9.4	½ covered	T. Carré, Director.
Mâcon, Normal School	29.34	745.1	30.00	762.0	72.0	22.2	74	N	.....	.....	6	.....	5	.....	N	0.024	0.6	Cloudy	M. Galzin, Director.
Mirecourt	28.95	735.3	29.96	761.0	68.2	20.1	57	SE	.....	.....	2	.....	2	.....	NW	0.24	6.	Slightly cl'dy	Normal School
Nismes, Normal School	29.78	756.3	29.97	761.2	84.9	29.4	35	NE	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.68	753.9	30.06	763.4	69.8	21	69	NW	.....	.....	2	.....	2	.....	NW	0.08	2.	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.82	757.5	30.06	763.4	71.2	21.8	54	WNW	.....	.....	1	.....	8	.....	WNW	0.276	7.00	Very cloudy	National Observatory.
Privas	29.00	736.5	30.02	762.4	77.0	25	60	S	.....	.....	4	.....	10	.....	S	0	0	Covered	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.06	763.5	30.09	764.3	78.1	25.6	44	W	.....	.....	2	.....	10	.....	W	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.01	762.2	30.09	764.3	70.2	21.2	62	N	.....	.....	3	.....	5	.....	W	0.028	0.7	Cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.09	738.9	30.16	766.0	64.4	18	80	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.43	747.5	30.13	765.3	67.1	19.5	75	NNE	.....	.....	1	.....	2	.....	W	0.150	3.8	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.82	757.5	79.2	26.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.54	39.	.....	L'Abbé Marchès.
Lyons	.....	.....	30.07	763.6	73.8	23.2	56	.....	.....	.....	.....	.....	7	.....	.....	0.173	4.4	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.93	760.3	73.2	22.9	61	SW	.....	.....	4–6	.....	8	.....	.....	0	0	Very cloudy	The Staff.
Mont-Louis	24.93	633.3	30.25	768.3	57.6	14.2	69	SE	7.4	3.33	.....	.....	4	.....	SE	0.472	12.0	.....	M. Cave.
Nice	.....	.....	29.95	760.7	74.8	23.8	78	SW	.....	.....	1	.....	3	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.78	756.5	30.06	763.5	70.3	21.3	55	NNW	.....	.....	1	.....	8	.....	NNW	0.079	2.0	.....	Marié Davy, Director
Perpignan	.....	.....	30.04	763.0	77.2	25.1	58	NW	14.9	6.66	.....	.....	8	.....	W	0.150	3.8	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.63	574.7	.....	.....	40.6	4.8	.....	NE	.....	.....	3	.....	10	.....	.....	0.626	15.9	Stormy	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.90	759.5	30.07	763.7	69.4	20.8	64	NNE	.....	.....	1	.....	9	.....	WNW	0.031	0.8	.....	E. Renou.
Toulouse, Observatory	29.39	746.5	30.11	764.9	68.5	20.3	72	WNW	.....	.....	1	.....	8	.....	.....	0.264	6.70	.....	The Staff.
Tours	29.89	759.2	30.09	764.2	72.0	22.2	58	NNE	.....	.....	2	.....	5	.....	N	0.260	6.6	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.08	764.0	73.8	23.2	55	N	.....	.....	2	.....	8	.....	.....	0.289	7.35	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.67	753.8	29.70	754.3	82.4	28.0	91	SE	6.5	2.9	.....	10ks;hz	.....	.....	.....	0	0	Covered	Mare Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet. Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10	Up'er 0–10	Low'r 0–10	Upper From—	Lower. From—	Inches.	Millimeters.		
Bamberg	29.10	739.1	29.94	760.5	72.5	22.5	55	W			3		6	W		0	0		Prof. Dr. Hoh.
Berlin	29.72	754.8	29.89	759.1	63.5	17.5	65	W			1		10			0.039	1.0	Raining	Prof. Arndt.
Breslau	29.39	746.6	29.92	760.0	68.9	20.5	50	W			3		4			0	0		Royal University Obs'y
Carlsruhe	29.57	751.0	29.98	761.6	66.6	19.2	83	N			1		10			0.177	4.5	Raining	Albert Senz.
Cassel	29.34	745.3	29.95	760.7	64.8	18.2	73	W			2		7	W		0	0		Dr. H. Möhl.
Crefeld	29.83	757.7	29.99	761.8	68.0	20.0	59	N			4		8k			0.24	6.		Director Lose.
Emden	29.97	761.3	30.01	762.3	58.6	14.8	72	NW			4		10			0.043	1.1		Prof. Prestel.
Frankfort on the Main	29.72	754.9	30.04	762.9	73.8	23.2		NW			2		8			0.031	0.8		Physical Society.
Friedrichshafen	28.58	725.9	29.98	761.6	64.4	18.0	85	S			0		7	WSW		0.079	2.0		M. Wilhelm.
Hamburg	29.85	758.1	29.92	759.9	59.0	15.0	76	NW			6		10k			0.075	1.9	Rain-squalls	Captain F. Hegemann.
Kiel	29.86	758.4	29 87	758.8	60.6	15.9	62	W			3		7			0.006	0.16		Prof. G. Karsten.
Königsberg, (Prussia)	29.66	753.3	29.74	755.3	61.2	16.2	57	W			4		4			0.016	0.4		Prof. E Luther.
Kösiin			29.78	756.3	61.3	16.3		SW			2		2			0.059	1.5		H. Müller.
Leipsic, Observatory	29.54	750.3	29.85	760.8	65.3	18.5	59	WNW			3		9	W		0.098	2.5		Prof. Bruhns.
Memel, Naval School	29.64	752.9	29.89	754.1	62.8	17.1	68	W			5		8n					Squally	Reinbrecht and Skalweit.
Neufahrwasser	29.76	755.8	29.77	756.2	67.3	19.6	47	WNW			4		6	WNW		0.031	0.8		A. Lothes.
Posen	29.62	752.3	29.80	759.4	70.2	21.2	59	W			2		5			0.122	3.1		Dr. Magener.
Strassburg (in Alsace)	29.47	748.6	30.00	762.1	71.8	22.1	69	NE			2		9	W		0.174	4.42		Astronomical Observatory.
Stuttgart	29.04	737.5	29.95	760.6	68.9	20.5	57	N			1		10			0.220	5.6	Raining	Prof. Schoder.
Treves, (Trier)	29 37	746.0	29.89	759.2	73.0	22.8	43	W			5		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.48	723.5	29.93	760.2	68.2	20.1	57	NNE	0	0			9ck		NW	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.83	757.6	29.87	758.6	62.2	16.8	64	WNW			5		7			0.043	1.1		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.62	752.4	29.99	761.8	88.0	31.1		NE			0.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.49	749.0	29.54	750.2	87.5	31.0	71	WSW	43?	19.2?			8			0	0	D. clouds	
Deesa	29.12	739.7	29.59	751.6	84.6	29.2	82	SSW					10			0.21	5.3	Overcast	
Bombay	29.71	754.6	29.75	755.6	84.6	29.2	86	WSW	15	6.7			10	NW	WSW	0.12	3.0	Overcast	
Poona	27.75	704.9	29.76	755.8	76.9	24.8	85	WSW					10		W	0.05	1.3	Overcast	
Lahore	28.81	731.9	29.55	750.6	80.4	26.9	50	E	6.7	3.0			6		E	2.50	63.5		
Belgaum	27.29	693.1	29.84	758.0	72.1	22.3	95	WSW	3	1.3			9		WSW	0.43	10.9	D. clouds	
Bangalore																			
Roorkee	28.68	728.6	29.58	751.3	77.8	25.4	89	NW	3.7	1.6			10			1.20	30.5	Gloomy	
Agra	28.97	735.9	29.62	749.9	88.2	31.2	78	W	10.0	4.5					W	0	0		
Trichinopoly																			
Nagpur	28.65	727.7	29.69	754.2	77.6	25.3	92	SW	8.2	3.7			10		E	1.06	26.9	Drizzling	
Madras																			
Lucknow	29.20	741.7	29.57	751.0	84.3	29.1	83	E	3.7	1.6			10			0.34	8.6	Overcast	
Allahabad	29.27	743.4	29.57	751.2	82.0	27.8	91	E	2.3	1.0			10		E	0.19	4.8	Overcast	
Patna	29.48	748.8	29.66	753.4	79.7	26.5	97	E	0.7	0.3			10	E	E	2.02	51.3	Thunder-storm	
Hazaribagh	27.67	702.9	29.67	753.6	79.0	26.1	89	WNW	6.8	3.0			10		W	0.42	10.7	Thunder-storm	
Cuttack	29.58	751.4	29.66	753.4	89.3	31.8	61	S	2.2	1.0			3			0	0	D. clouds	
Calcutta (Alipore)	29.66	753.5	29.69	754.0	86.4	30.2	78	SW	6.0	2.7			3	E	NW	0	0	D. clouds	
Goalpara	29.30	744.2	29.69	754.1	79.5	26.4	91	Calm	2.4	1.1			9			0.37	9.4	D clouds	
Chittagong	29.68	753.8	29.77	756.1	84.9	29.4	83	S	6.9	3.1			6			0	0	Threatening	
Sibsagar	29.35	745.5	29.68	754.0	84.2	29.0	81	NW	3.3	1.5			10			0.60	15.2	D. clouds	
Rangoon																			
Jubbulpore	28.27	718.0	29.62	752.3	82	27.8	75	SW	6.0	2.7			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10	Clouds. Amount. Up'er. 0—10	Low'r. 0—10	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Udine	29.57	751.1	29.97	761.2	69.4	20.8	72	E	1.3	0.6			10			0.350	8.9		Prof. Giovanni Clodig.
Padua	29.87	758.8	29.98	761.5	66.7	19.3	83	NNW	14.3	6.4			10			0.039	1.0		Prof. Dott. Lorenzoni
Vicenza	29.80	757.0	29.99	761.7	63.3	17.4	85	NW	4.3	1.9			10			0.350	8.9		Conte Alm. Da Schio.
Bergamo	28.66	728.0	29.93	760.2	72.3	22.4	66	S			2		8			0	0		Prof. Trionfini Carlo.
Milan	29.47	748.4	29.96	761.0	74.8	23.8		E			1		5	W		0.138	3.5		Prof. Schiaparelli.
Moncalieri	29.08	738.7	29.95	760.8	69.1	20.6	69	ESE	1.3	0.6			8	NE		0	0		Prof. P. F. Denza.
Mondovi	28.08	713.3	29.92	760.0	67.8	19.9	71	ESE			2		9	WSW		0.167	4.0		Prof. D. C. Bruno.
Porto Maurizio	29.75	755.7	29.97	761.2	74.5	23.6	74	E			2		10	E		0	0		Prof. L. Vassallo.
Genoa	29.80	756 8	29.96	761.0	68.0	20.0	84	NE	8.7	3.9			10	S		0.598	15.2		Prof. G. M. Garibaldi.
Parma	29.70	754.4	30.00	762.1	65.1	18.4	87	NNW			4		10			0.098	2.5		Prof. P. Pigorini.
Florence	29.70	754.4	29.95	760.7	80.6	27.0	53	NW			2		8	SW		0	0		Cav. F Meucci.
Leghorn	29.89	759.1	29.97	761.2	76.8	24.8	65	S	17.4	7.8			5	S		0	0		Prof. P. Monte.
Pesaro	29.87	758.6	29.91	759.8	83.1	28.4	33	S					7			0	0		Prof. Luigi Guidi.
Urbino	28.45	722.5	29.95	760.6	77.7	25.4	35	SW			2		3			0	0		Prof. P. Serpieri.
Grosseto	29.91	759.6	30.01	762.3	79.5	26.4	57	SSE			4		2	S		0	0		Avv. P. Ponticelli.
Rome	29.86	758.5	30.03	762.8	80.2	26.8	39	S	15.0	6.7			0			0	0		Prof. P. G. S. Ferrari.
Naples, O. U.	29.87	758.6	30.06	763.5	79.0	26.1	45	SW			4		0			0	0		Prof. L. Palmieri.
Lecce	29.75	755.7	30.00	761.9	85.3	29.6	28	WSW	2.5	1.1			1	S		0	0		Prof. C. De Giorgi.
Cagliari	29.77	756.2	29.90	760.9	76.8	24.9	66	SW			2		0			0	0		Prof. A. Pacinotti.
Cosenza	29.13	740.0	29.98	761.4	87.4	30.8	57	SW	8.1	3.6			0			0	0		Prof. F. D. Conti.
Palermo	29.82	757.4	30.07	763.7	74.8	23.8	60	NE	6.9	3.1			0			0	0		Prof. G. Cacciatore.
Syracuse	29.91	759.8	29.99	761.7	84.9	29.4	30	S			4		0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.52	749.8	30.08	763.9	77.5	25.3	61	SSW	0	0			2	W		0	0		Prof. F. Brioschi.

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

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.67	753.6	29.87	758.7	78.2	25.7	92	SW	12.8	5.7			10ks;s		SW	0.100	2.54	Cloudy	
Tokei (Yeddo)	29.64	752.8	29.71	754.6	76.2	24.6	93	S	1.8	0.8			10ck;s			0	0	Cloudy	The Observatory.
Tokei (Yeddo) University	29.61	752.1	29.70	754 5	75.8	24.6	98	NE	2	0.9			9ks			0	0	Cloudy	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Aguascalientes																			I. N. Marin, M. D.
Cordoba																			C. Peña, M. D.
Cuernavaca																			L. Castillo, A. E.
Guadalajara	25.04	636.0	29.98	761.5	60.8	16.0	90	S	0.9	0.4		0	10		SE	0.60	15.4	Covered	Prof. L. Perez.
Guanajuato																0.99	25.0		Prof. V. Fernandez
Leon					65.5	18.6	88	SSW	1.8	0.8		0	10n		NE	0.57	14.5	Covered	Prof. M. Leal.
Mexico	23.08	586.3	30.04	763.1	58.6	14.8	92	Calm	0	0		0	10k			0.64	16.3	Misty	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalts)					64.9	18.3	90	Calm	0	0		0	10n			0.23	5.7	Covered	M. V. de Leon, M. E.
Puebla	23.33	592.5	29.92	760.0	59.2	15.1	95	Calm	0	0		0	10n		SE	0.45	11.4	Rainy	Prof. B. Gonzalez.
Toluca																			Prof. C. Velazquez.
Tlacotalpam	29.87	758.6	29.88	758.9	77.9	25.5	83	S	0.9	0.4		10ck	0	S		0	0	Covered	Prof. F. R. Bayly.
San Luis Potosi	24.10	613.2	30.10	764.5	63.2	17.3	54	E	0.9	0.4		0	10n		E	0.60	15.2	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.89	759.2	29.92	759.9	80.6	27.0	84	Calm	0	0		2c	5s;k		W	0	0	Foggy	Prof. J. Rossell.
Zacatecas					59.9	15.5	86	E	5.1	2.3		0	10			1.30	33.0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	591.0	29.99	761.9	58.1	14.5	82	NE				0	10			0.45	11.5	Covered	Prof. P. Spina. [M.M. D. D
Morelia	24.05	611 0			66.2	19.0	67	S	0.9	0.4		0	10k			0.02	0.4	Covered	M. Tena, F. L. Paramo,
Durango	24.33	618.0	30.13	765.4	69.5	20 8	88	Calm	0	0		3c	0	N		0	0	½ cloudy	M. V. de Leon, C. E.
Colima	28.35	720.0	29.98	761.5	77.5	25.3	83						9k			0	0	Very cloudy	R. Banda, C. E
San Juan E. Michapam																			Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,591.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,281.5 m., or 7,483.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,898 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,617.3 (?) ft. The rain-fall is generally measured at 6, a. m, local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Insting	30.10	764.6	30.10	764.6	66.9	19.4		N			4					0.020	0.5		
Groningen	29.97	761 1	30.02	762.5	61.2	16.2		NW			4					0	0		
Helder	30.06	763.4	30.06	763.4	59.2	15.1		NW			4					0	0		
Hellevoetsluis	30.03	762.8	30.03	762.8	66.7	19.3	58	N			3								
Utrecht	30.02	762.4	30.07	763 6	65.5	18.6	63	NNW			3		8			0	0	Very cloudy	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—12.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r —10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.82	757.3	29.87	758.7	55.8	13.2	53	NNW	11.9	5.3	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.76	755.8	29.80	756.8	55 0	12.8	62	NNW	18	8	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.59	751.5	29.73	755.1	64.0	17.8	49	NNE	7	3	.....	.....	8	.....	.....	0.051	1.3	....	
Tromsö	29.77	756.1	29.81	757.2	48.2	9.0	81	NE	4	2	.....	.....	10	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.36	771.1	30.55	775.9	74.8	23.8	78	ESE	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.96	735.5	29.93	760.1	85.1	29.5	36	WNW	11.9	5.3	.....	.....	07	.....	WNW	0	0	Solar halo...	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.11	764.9	30.20	767.1	76.3	24.6	71	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.6	30.06	763.5	72 0	22.2	50	N	36.0	16.1	.....	.....	9	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.47	773.8	30.54	775.6	76.6	24.8	63	NE	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	

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

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	30.04	762.9	73.4	23.0	.....	WNW	.....	.....	3	.....	10	.....	.....	1	.....	.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58', E. 32° 37'	.....	.....	30.08	764.0	74.3	23.5	.....	N	.....	.....	4	.....	6	.....	N	2	N	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.96	761.0	83.8	28.8	.....	ESE	.....	.....	2	.....	4	....	Calm	2	SW	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	.....	.....	29.93	760.2	.....	.....	.....	WNW	.....	.....	3	.....	10	....	.....	2	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation: they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.42	747.3	29.84	757.8	56.7	13.7	96	W	13	6	.....	.....	10n;ks	.....	.....	.....	.....	Raining.....	Astronomical Obs.
Wilna	29.28	743.6	29.68	753.9	63.5	17.5	61	W	4	2	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.30	744.3	29.54	750.2	70.5	21.4	74	SSW	7	3	.....	.....	9ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.45	748.1	29.47	748.5	64.6	18.1	63	WNW	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.18	741.1	29.78	756.5	71.4	21.9	51	NW	7	3	.....	.....	3k;ks	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.39	759.2	29.96	761.0	69.2	31.8	33	SW	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.02	762.5	30.04	763.0	74.5	23.6	73	SW	9	4	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.01	736.8	29.53	750.1	65,7	18.7	59	ESE	13	6	.....	.....	7n	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.62	752.4	29.82	757.4	79.5	26.4	37	SW	13	6	.....	.....	5n	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.18	741.1	29.20	741.6	76.6	24.8	86	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof
Tiflis	28.66	727.9	30.00	761.9	84.4	29.1	23	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.01	762.3	29.93	760.2	84.7	29.3	24	WSW	11	5	.....	.....	5k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.20	741.7	29.46	748 3	63.9	17.7	82	S	2	1	.....	.....	10	.....	.....	.....	.....	Raining.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.60	726.4	29.48	748.9	77.7	25.4	54	SW	11	5	.....	.....	9n;ck;s	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.51	749.5	29.72	755.0	93.4	34.1	42	NNW	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.15	714.9	29.72	754.9	88.9	31.6	50	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.28	743.6	29.76	756.0	81.3	27.4	33	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.43	747.4	29.71	754.5	60.8	16.0	56	NW	7	3	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.35	745.4	29.49	749.0	69.8	21.0	87	NW	2	1	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds: occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.5 feet; Tashkend, 594.27 m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	73.4	23	68	E	1.6	0.72	.....	10	5	SW	.....	0.012	0.31	Misty.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.07	763 7	30.12	765.1	68.2	20.1	80	E	3.8	1.69	.....		10	.....	.....	0.106	2.7	Rainy...	Prof. Manuel de Naveran.
Burgos, Met. Obs'y	27.17	690.0	.....	.....	62 1	16.7	65	NE	10.6	4.74	.....	.....	9	.....	.....	0	0	Almost cov..	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.6	29.87	758.6	78.4	25.8	39	NE	14.1	6.33	.....	0	10	.....	.....	0	0	Covered.....	The Staff.
Murcia, Met. Obs'y	29.79	756.7	29.93	760.3	85.1	29.5	51	NE	4.5	2.03	.....	4	5	WNW	.....	0.024	0.60	.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.27	743.5	30.16	766.0	66.7	19.3	70	N	14.8	6.67	.....	.....	9	.....	.....	0	0	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.91	759.7	29.97	761.3	86.7	30.4	71	SE	3.6	1.6	.....	3c	0	.....	.....	0	0	Fair.....	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.87	758.7	29.97	761.1	79.7	26.5	52	SW	3.3	1.5	.....	2	7	NW	NW	0	0	.....	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.84	757.9	29.93	760.2	84.2	29.0	65	NE	5.6	2.52	.....	4n	6n	SE	SE	0.532	13.50	Overcast.....	Leonardo de Tejada, Ch't Eng'rs

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Low'r 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.63	752.6	29.67	753.6	59.7	15.4	.....	N	.....	.....	6	.....	5	.....	.....	0	0	.....	
Umea	29.63	752.5	29.68	753.8	62.6	17.0	59	NE	.....	.....	6	.....	8	.....	.....	0.256	6.5	.....	
Hernosand	29.58	751.2	29.68	753.8	62.2	16.8	67	NE	.....	.....	6	.....	8	.....	.....	0	0	.....	
Stockholm	29.48	748.8	29.66	753.3	59.2	15.1	71	Calm	.....	.....	0	.....	9	.....	.....	0.917	23.3	Raining	
Wisby	29.57	751.0	29.63	752.5	58.3	14.6	70	NNE	.....	.....	6	.....	7	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.56	750.7	29.63	752.6	64.0	17.8	54	NNW	10.3	4.6	.....	.....	6	.....	NNW	0.001	0.02	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.61	726.7	30.01	762.2	64.2	17.9	82	N	.....	.....	4	.....	9	.....	.....	0.181	4.6	Raining	The Observatory.
Zurich	28.42	721.8	30.02	762.4	65.3	18.5	78	SE	.....	.....	.....	.....	10	.....	.....	0.268	6.8	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.7 mm.; Thermometer, —4.5 cent.; Relative Humidity, +29 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	30.05	763.2	81.3	27.4	60	ESE	3	1.5	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.14	765.6	82.6	28.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.72	754.9	29.84	757.9	81.4	29.1	61	N	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.71	754.6	29.78	756.4	60	15.6	87	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.62	752.3	29.91	759.7	79	26.1	.....	SW	4	1.8	.....	0	2s	.....	SW	0	0	Clear	W. R. Rigg.
*Chatham, N. B	29.75	755.6	29.81	757.2	61	16.1	85	SW	2	0.9	.....	2k	8s	NW	NW	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.82	757.4	29.86	758.4	64	17.8	70	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.69	754.1	29.87	758.7	78.8	26.0	65	SW	.....	.....	3	7cs	3s	W	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.62	752.3	29.78	756.4	58	14.4	93	NW	.....	.....	1	.....	.....	.....	.....	0	0	Cloudy	H. A. Johnson.
Esquimault, B. C	29.87	758.7	29.92	760.0	54.2	12.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.76	755.9	29.78	756.4	57	13.9	87	SW	14	6.3	.....	.....	Fog	.....	W	0	0	Foggy	J. McWilliams.
Fredericton, N. B	29.82	757.4	29.88	758.9	63.0	17.2	74	S	2	0.9	.....	0	Sm'o	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.97	735.8	29.77	756.1	58	14.4	94	W	5	2.2	.....	2c	2ks	W	W	0.070	1.78	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.84	732.5	29.88	758.9	72	22.2	100	SW	.....	.....	1	.....	10n	.....	.....	0.80	20.3	Overcast	James Grant.
*Halifax, N. S	29.79	756.7	29.92	760.0	62	16.7	68	SW	9	4.0	.....	.....	Haze	.....	.....	0	0	Hazy	F. Allison, M. A.
Hamilton, Ontario	29.57	751.1	29 92	760.0	75.1	23.9	86	SW	.....	.....	4	10ck	0	.....	.....	0.05	1.3	.....	Geo. Dickson, M. A.
Heart's Content, N. F	30.05	763.3	30.07	763.8	54	12.2	77	SW	.....	.....	4	2k	2ks	W	.....	0.06	1.5	Fine	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.91	759.7	73	22.8	82	S	6	2.7	.....	10c	Sm'o	Calm	S	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.90	759.4	29.94	760.5	64.0	17.8	.....	SW	10	4.5	.....	5ck	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.68	753.9	29.87	758.7	78	25.6	59	W	15	6.7	.....	.....	8s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.18	741.2	29.85	758.2	66	18.9	87	SW	12	5.4	.....	2cs	0	.....	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.27	743.4	29.97	761.2	81.7	27.6	59	W	.....	.....	1	0	0	.....	.....	0	0	Hazy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.26	743.2	29.92	760.0	74	23.3	95	S	7	3.1	.....	.....	10n	.....	SW	0.02	0.5	Light rain	H. Morgan.
Port Hastings, N. S	29.88	758.9	29.93	760.2	54.7	12.6	.....	W	3	1.3	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.91	759.7	74	23.3	91	SW	8	3.6	.....	.....	10n	.....	SW	0.26	6.6	Cloudy	M. Payne.
*Quebec, Quebec	29.43	747.5	29.74	755.4	72	22.2	76	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R N
*Rockliffe, Ontario	29.40	746.7	29.83	757.7	72	22.2	74	E	4	1.8	.....	2ck	0	SW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.81	757.2	29.86	758.4	54	12.2	92	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.75	755.6	29.91	759.7	54	12.2	100	SW	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.17	740.9	29.84	757.9	76	24 4	82	SW	16	7.2	.....	8k	0	S	.....	Inap.	Inap.	Cloudy	K. Stewart.
Stayner, Ontario	29.11	739.4	29.84	757.9	77	25.0	77	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.66	728 0	29.88	758.9	72.2	22.3	98	SW	10.0	4.5	.....	2cs;ck	4ks;s	SW	.....	1.031	26.19	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	29.93	760.2	29.96	761.0	65	18.3	72	SE	7	3.1	.....	5c	0	N	.....	0	0	Fair	Magnetic Observatory.
*Toronto, Ontario	29.54	750.3	29.91	759.7	72	22.2	93	S	2	0.9	.....	.....	10ks	.....	W	0.10	2.5	Light rain	Prof. John E. Oram.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	60.0	15.6	71	W	.....	.....	.....	5k	8s	.....	.....	0.10	2.5	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

UNITED STATES SERIES.

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.75	755.6	29.96	761.0	73	22.8	59	S	6	2.7	.....	1c	Haze	Calm	.....	0	0	Clear	
Alpena, Michigan	29.12	739.6	29.72	754.9	73	22.8	85	S	2	0.9	.....	2k	Haze	Calm	.....	0	0	Fair	
Atlantic City, New Jersey	30.02	762.5	30.04	763.0	76	24.4	86	S	8	3.6	.....	2c	Haze	W	Calm	0	0	Fair	
Augusta, Georgia	29.95	760.7	30.12	765.0	83	28.3	75	SE	1	0.4	.....	0	Haze	.....	.....	0.03	0.8	Clear	
Baltimore, Maryland	29.97	761.2	30.02	762.5	78	25.6	82	E	3	1.3	.....	2c	Fog	NE	Calm	0	0	Fair	
Barnegat, New Jersey	30.02	762.5	30.04	763.0	81	27.2	74	SW	9	4.0	.....	2ck	Haze	NW	Calm	0	0	Hazy	
Bismarck, Dakota	28.12	714.2	29.98	761.5	61	16.1	71	NW	6	2.7	.....	Sm'e	Sm'e	.....	.....	Inap.	Inap.	Smoky	
BoiseCity, Idaho	27.05	687.1	29.93	760.2	57	13.9	57	S	4	1.8	.....	5k	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.80	756.9	29.95	760.7	77	25.0	60	W	12	5.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Brackettville, Texas	28.85	732.8	29.84	757.9	74	23.3	81	E	6	2.7	.....	2cs	0	Calm	.....	0	0	Clear	
Breckenridge, Minnesota	28.86	733.0	29.82	757.4	64	17.8	89	W	4	1.8	.....	10k	0	W	.....	0.03	0.8	Cloudy	
Brownsville, Texas	29.92	760.0	29.99	761.7	75	23.9	95	E	6	2.7	.....	.....	10s	.....	Calm	1.46	37.1	Cloudy	
Buffalo, New York	29.22	742.2	29.88	758.9	76	24.4	64	S	5	2.2	.....	2ck	8s	SW	SW	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	76	24.4	41	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.68	753.9	29.93	760.2	77	25.0	60	SW	6	2.7	.....	1c	Haze	W	.....	0	0	Clear	
Cairo, Illinois	29.63	752.6	30.01	762.0	79	26.1	82	SW	6	2.7	.....	.....	10s	.....	SW	0.04	1.0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	57	13.9	63	NE	.....	.....	1	2k	0	Calm	.....	0	0	Fair	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	73	22.8	55	E	.....	.....	1	2ck	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.70	678.2	30.19	766.8	64	17.8	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.30	693.4	29.87	758.7	41	5.0	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	78	25.6	65	SE	14	6.3	.....	2k	0	NE	.....	0	0	Fair	
Cape Henry, Virginia	30.05	763.3	30.08	764.0	76	24.4	86	S	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.13	765.3	30.15	765.8	80	26.7	70	S	14	6.3	.....	8k	0	N	.....	0	0	Cloudy	
Cape May, New Jersey	30.03	762.7	30.06	763.5	75	23.9	81	S	10	4.5	.....	2c	0	Calm	.....	0	0	Clear	
Charleston, South Carolina	30.09	764.3	30.15	765.8	83	28.3	67	SE	11	4.9	.....	2k	0	E	.....	0	0	Fair	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	61	16.1	94	S	4	1.8	.....	0	8s	.....	S	0	0	Cloudy	
Chicago, Illinois	29.16	740.7	29.80	756.9	78	25.6	78	SW	2	0.9	.....	5cs	Haze	SW	.....	0	0	Fair	
Cincinnati Ohio	29.31	744.5	29.92	760.0	80	26.7	76	SW	7	3.1	.....	5ck	0	SW	.....	0.07	1.8	Fair	
Cleveland, Ohio	29.22	742.2	29.90	759.4	75	23.9	77	S	14	6.3	.....	2k	5ks	W	Calm	0.12	3.0	Fair	
Columbus, Ohio	29.16	740.7	29.92	760.0	78	25.6	78	Calm	.....	.....	0	5ck	0	Calm	.....	0.12	3.0	Fair	
Concho, Texas	28.09	713.5	29.70	754.4	74	23.3	39	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.57	751.1	30.03	762.7	73	22.8	90	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.25	742.9	29.85	758.2	78	25.6	82	Calm	0	0	.....	7cs	Haze	W	Calm	Inap.	Inap.	Cloudy	
Denison, Texas	29.22	742.2	29.98	761.5	76	24.4	86	S	8	3.6	.....	2k	0	S	.....	0	0	Fair	
Denver, Colorado	24.86	631.4	30.08	764.0	62	16.7	77	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.22	742.2	29.86	758.4	72	22.2	90	SW	8	3.6	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Dodge City, Kansas	27.37	695.2	29.53	750.0	74	23.3	81	SW	20	8.9	.....	2ck	3ks	Calm	W	0.02	0.5	Cloudy	
Dubuque, Iowa	29.18	741.2	29.84	757.9	74	23.3	81	NW	1	0.4	.....	5c	5ks	N	Calm	0.13	3.3	Cloudy	
Duluth, Minnesota	29.18	741.2	29.83	757.7	70	21.1	80	Calm	0	0	.....	0	0	.....	.....	0.27	6.9	Clear	
Eagle Pass, Texas	29.23	742.4	29.95	760.7	75	23.9	77	E	4	1.8	.....	10k	0	S	.....	0	0	Cloudy	
Eastport, Maine	29.78	756.4	29.85	758.2	55	12.8	87	S	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	84	28.9	46	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.21	741.9	29.88	758.9	76	24.4	77	S	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Escanaba, Michigan	29.15	740.4	29.77	756.1	72	22.2	80	NW	11	4.9	.....	5k	0	NW	.....	0.01	0.3	Fair	
Florence, Arizona	.....	.....	.....	.....	74	23.3	32	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.23	640.8	30.19	766.8	70	21.1	60	E	1	0.4	.....	2c	0	NE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.46	748.3	29.96	761.0	81	27.2	78	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.74	730.0	29.96	761.0	73	22.8	85	Calm	0	0	.....	2ck	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.82	757.4	78	25.6	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.96	761.0	30.01	762.2	83	28.3	87	E	4	1.8	.....	5k	0	SE	.....	0.40	10.2	Fair	
Grand Haven, Michigan	29.22	742.2	29.82	757.4	77	25.0	73	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.17	740.9	29.90	759.4	78	25.6	78	S	4	1.8	.....	5k	2s	SW	SW	0.01	0.3	Fair	
Indianola, Texas	29.98	761.5	30.00	762.0	81	27.2	83	NW	5	2.2	.....	1ck	0	Calm	.....	0.18	4.6	Clear	
Jacksboro, Texas	28.88	733.5	29.97	761.2	75	23.9	86	W	7	3.1	.....	1k	0	W	.....	0	0	Clear	
Jacksonville, Florida	30.04	763.0	30.06	763.5	84	28.9	64	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.26	743.2	29.83	757.7	79	26.1	74	NW	3	1.3	.....	1c	1s	NW	Calm	0	0	Fair	
Key West, Florida	29.93	760.2	29.96	761.0	82	27.8	83	Calm	0	0	.....	.....	9s;ks	.....	Calm	1.62	41.1	Cloudy	
Kittymawk, North Carolina	30.11	764.8	30.13	765.3	80	26.7	74	SW	19	8.5	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.12	739.6	30.08	764.0	76	24.4	73	Calm	0	0	.....	5ck	0	SW	.....	0.08	2.0	Fair	
La Crosse, Wisconsin	29.14	740.1	29.84	757.9	69	20.6	90	N	2	0.9	.....	.....	10s	.....	N	Inap	Inap.	Cloudy	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	71	21.7	62	Calm	0	0	.....	5c	0	Calm	.....	0.01	0.3	Fair	
Laredo, Texas	29.58	751.3	29.91	759.7	76	24.4	91	NE	6	2.7	.....	.....	10n	.....	E	0.23	5.8	Light rain	
Lead City, Dakota	24.94	633.5	.....	.....	51	10.6	79	S	1	0.4	.....	0	0	.....	.....	0.53	13.5	Clear	
Leavenworth, Kansas	29.16	740.7	29.98	761.5	67	19.4	95	NW	8	3.6	.....	.....	10n	.....	NW	1.24	31.5	Light rain	
Los Angeles, California	29.51	749.5	29.84	757.9	59	15.0	88	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.42	747.3	29.94	760.5	81	27.2	70	S	7	3.1	.....	2ck	0	SW	.....	0.01	0.3	Clear	
Lynchburg, Virginia	29.31	745.2	29.98	761.5	83	28.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.07	738.4	29.73	755.1	72	22.2	76	W	8	3.6	.....	0	0	SW	.....	0.23	5.8	Clear	
Mason, Texas	28.38	720.8	30.06	763.5	76	24.4	72	Calm	0	0	.....	1c	0	SW	.....	0	0	Clear	
Memphis, Tennessee	29.72	754.9	30.02	762.5	83	28.3	74	SW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.13	739.9	29.82	757.4	73	22.8	85	W	8	3.6	.....	5c	0	NW	.....	0.27	6.9	Fair	
Mobile, Alabama	30.02	762.5	30.06	763.5	79.5	26.4	82	N	4	1.8	.....	2ck	8s	Calm	Calm	0.03	0.8	Cloudy	
Montgomery, Alabama	29.85	758.2	30.07	763.8	83	28.3	70	SE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	28.98	736.1	29.97	761.2	78	25.6	73	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	23.96	608.6	30.32	770.1	56	13.3	74	NW	25	11.2	.....	0	Haze	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.51	749.5	30.02	762.5	83	28.3	67	E	2	0.9	.....	1k	2s	Calm	Calm	Inap.	Inap.	Fair	
New Haven, Connecticut	29.90	759.4	30.01	762.2	80	26.7	66	SW	1	0.4	.....	0	Haze	.....	.....	0	0	Hazy	
New London, Connecticut	29.96	761.0	30.01	762.2	76	24.4	73	W	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Dense haze	
New Orleans, Louisiana	29.97	761.2	30.02	762.5	83	28.3	79	NE	8	3.6	.....	8k	0	NE	.....	0	0	Fair	
Newport, Rhode Island	29.95	760.7	30.00	762.0	71	21.7	75	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.88	758.9	30.06	763.5	70	21.1	90	SW	5	2.2	.....	5c;hz	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.03	762.7	30.09	764.3	82	27.8	67	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.11	688.6	29.58	751.3	64	17.8	86	E	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.88	758.9	29.92	760.0	52	11.1	79	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.81	731.8	29.84	757.9	68	20.0	90	NW	3	1.3	.....	5c	2s	SW	Calm	0.84	21.3	Fair	
Oswego, New York	29.63	752.6	29.93	760.2	78	25.6	51	S	5	2.2	.....	5c	0	SW	.....	0	0	Fair	
Pembina, Dakota	28.97	735.8	29.76	755.9	59	15.0	88	NW	6	2.7	.....	2c	0	W	.....	0.13	3.3	Clear	
Philadelphia, Pennsylvania	29.98	761.5	30.03	762.7	72	22.2	95	SW	6	2.7	.....	.....	Fog	.....	SW	0	0	Foggy	
Phœnix, Arizona	28.60	726.4	.....	.....	85	29.4	29	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.10	459.7	30.31	769.9	38	3.3	45	SW	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.03	610.4	29.80	756.9	60	15.6	15	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.18	741.2	29.94	760.5	77	25.0	69	SW	7	3.1	.....	10ck;k	0	W;SW	.....	0	0	Cloudy	
Port Huron, Michigan	29.21	741.9	29.83	757.7	74	23.3	86	S	10	4.5	.....	.....	10ks	.....	S	0.19	4.8	Cloudy	
Portland, Maine	29.82	757.4	29.87	758.7	77	25.0	61	W	3	1.3	.....	Haze	Haze	.....	.....	0	0	Hazy	
Portland, Oregon	29.90	759.4	30.01	762.2	58	14.4	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.82	630.4	30.18	766.6	52	11.1	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	29.97	761.2	29.99	761.7	81	27.2	83	E	10	4.5	.....	5c	2s	W	E	0.26	6.6	Fair	
Red Bluff, California	29.52	749.8	29.87	758.7	64	17.8	62	SE	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy.	
Rochester, New York	29.31	744.5	29.88	758.9	77	25.0	61	SW	4	1.8	.....	8k	Haze	SW	Calm	0	0	Fair	
Roseburg, Oregon	29.45	748.0	30.01	762.2	55	12.8	93	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Sacramento, California	29.78	756.4	29.86	758.4	58	14.4	76	S	11	4.9	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.91	759.7	77	25.0	82	SW	8	3.6	.....	5k	0	W	.....	0.14	3.6	Fair	
St. Marks, Florida	30.06	763.5	30.08	764.0	76	24.4	86	NE	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
St. Paul, Minnesota	29.08	737.3	29.81	757.2	69	20.6	81	SW	7	3.1	.....	2k	0	SW	.....	0.48	12.2	Fair	
Salt Lake City, Utah	25.62	648.2	29.85	758.2	68	20.0	18	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.32	744.7	29.88	758.9	76	24.4	82	SE	3	1.3	.....	2k	0	Calm	.....	0	0	Clear	
San Diego, California	29.80	756.9	29.87	758.7	64	17.8	89	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.20	741.2	29.89	759.2	74	23.3	90	SW	11	4.9	.....	2k	7n	SW	SW	0.75	19.1	Light rain	
Sandy Hook, New Jersey	30.02	762.5	30.05	763.3	73	22.8	90	W	9	4.0	.....	.....	Haze	.....	Calm	0	0	Hazy	
San Francisco, California	29.84	757.9	29 91	759.7	54	12.2	87	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.35	593.1	29.80	759.2	65	18.3	44	E	2	0.9	.....	1k	0	Calm	.....	0	0	Clear	
Savannah, Georgia	30.02	762.5	30.11	764.8	84	28.9	68	SE	12	5.4	.....	5k	Haze	E	Calm	0	0	Fair	
Shreveport, Louisiana	29.83	757.7	30.04	763.0	74	23.3	90	Calm	0	0	.....	.....	10s	.....	S	0.34	8.6	Cloudy	
Silver City, New Mexico	24.33	618.0	30.30	769.6	63	17.2	78	S	0	2.7	.....	0	0	.....	.....	0.04	1.0	Clear	
Smithville, North Carolina	30.12	765.0	30.16	765.8	80	26.7	74	SE	12	5.4	.....	5k	Haze	NE	Calm	0	0	Hazy	
Springfield, Massachusetts	29.80	756.9	29.93	760.2	75	23.9	64	S	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Stockton, Texas	26.92	683.8	29.92	760.0	69	20.6	86	SE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.88	758.9	29.93	760.2	71	21.7	71	SW	8	3.6	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky	
Toledo, Ohio,	29.22	742.2	29.85	758.2	75	23.9	90	S	10	4.5	.....	.....	10s	.....	S	0.14	3.6	Cloudy	
Tucson, Arizona	27.34	694.4	29.89	759.2	81	27.2	35	SW	.....	.....	1	8k	0	SE	.....	0	0	Fair	
Tybee Island, Georgia	30.06	763.5	30.09	764.3	82	27.8	71	SE	13	5.8	.....	Haze	2ks	Calm	SE	0	0	Fair	
Umatilla, Oregon	29.54	750.3	.....	.....	60	15.6	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.81	757.2	30.06	763.5	76	24.4	91	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.30	617.2	29.78	756.4	53	11.7	64	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.61	749.5	29.87	758.7	59	15.0	70	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.93	760.2	30.04	763.0	79	26.1	74	SE	2	0.9	.....	2c	Fog	Calm	.....	0	0	Foggy	
Wickenburg, Arizona	.....	.....	.....	.....	64	17.8	.....	Calm	.....	.....	0	2c	0	E	.....	0	0	Clear	
Wilmington, N. Carolina	30.05	763.3	30.13	765.3	79	26.1	73	SE	4	1.8	.....	5k	0	S	.....	0	0	Fair	
Winnemucca, Nevada	29.60	659.2	29.96	761.0	49	9 4	91	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.94	760.5	29.99	761.7	72	22.2	80	W	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.68	728.5	29.91	759.7	67	19.4	84	W	4	1.8	.....	0	0	.....	.....	0.19	4.8	Clear	
Yuma, Arizona	29.50	749.3	29.65	753.1	76	24.4	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.48	748.8	29.54	750.3	62.0	16.7	75	SW	23	10.3	.....	4k	5s	N	W	2.00	50.8	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba. W. I	29.93	760.2	29.95	760.7	85	29.4	72	SE	2.4	1.1	.....	8c	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.09	764.3	30.10	764.5	82	27.8	79	Calm	0	0	.....	8c	2s	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I	29.87	758.7	29.95	760.7	85	29.4	.....	NE	5	2.2	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	79	26.1	87	SE	.....	.....	3	5k	8ks	E	.....	0	0	¾ Cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S.A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Medellin, Colombia, S. A	25.21	640.3	.....	.....	67.8	19.9	85	Calm	0	0	.....	4cs;k	4ks	.....	.....	0.22	5.6	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 metres; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?)50 ft., or Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,860 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,7 m.; 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,208 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.6 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,159.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,680 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,890 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 6.04 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.16 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.38 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Metres per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.87	758.7	57	13.9	53	11.7	96	SSW	21	9.4	....	.....	10	.....	SW	.....	.....	.....	.....	Overcast	
Navy Yard, Pensacola, Fla.	30.18	766.6	80	26.7	80	26.7	89	NE	3	1.3	....	.....	2	.....	NE	2.02	51.3	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.92	760.0	81	27.2	76	24.4	64	W	1	0.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.75*	755.6*	77.5	25.3	77.5	25.3	86	W	.....	.....	1	.....	8ck	.....	W	0	0	.....	.....	Fair	
Alliance, N. 44° 20', W. 8° 41'	30.21‡	767.3‡	.....	.....	65	18.3	94	NNE	....	.....	4–5	.....	10	.....	N	.....	.....	Mod'ate	N	Rainy	
Ashuelot. Nagasaki, Japan	29.94	760.5	80	26.7	78	25.6	95	SW	.....	.....	4	.....	10	.....	Calm	.....	.....	.....	.....	Misty	
Alaska, N. 8° 53', W. 35° 43'	30.10	764.5	82	27.8	81	27.2	83	NE	.....	.....	2	.....	3	.....	NE	.....	.....	Long	NE	.....	
Canonicus, New Orleans, La	30.02	762.5	57	13.9	81	27.2	91	N	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y	30.05‡	763.3‡	.....	.....	75	23.9	77	S	4	1.8	.....	.....	8	.....	NNW	0	0	.....	.....	Light fog	
Constellation, N. 39° 54', W. 73° 56'	30.11‡	764.8‡	.....	.....	77	25.0	77	SSW	.....	.....	2	.....	5	.....	S	.....	.....	Smooth	.....	Fair	
Constitution, Havre, France	30.07‡	763.8‡	.....	.....	65	18.3	89	NNW	.....	.....	3	.....	4	.....	N	.....	.....	.....	.....	Pleasant	
Despatch, Prince's Islands, Sea of Marmora	30.02‡	762.5‡	.....	.....	75	23.9	81	WSW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 15' 19", W. 60° 32' 27"	29.92‡	760.0‡	.....	.....	81	27.2	96	SE	.....	.....	2	.....	2	.....	S	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va	30.22	767.6	80	26.7	79	26.1	74	SSW	14.4	6.4	.....	.....	2	.....	NW	0	0	.....	.....	D. clouds	
Gettysburg Alexandria, Egypt	29.88‡	758.9‡	.....	.....	79	26.1	??	NNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Guard, Rio de Janeiro, Brazil	30.16	766.1	74	23.3	72	22.2	85	N	.....	.....	1	.....	8	.....	N	.....	.....	.....	.....	Misty	
Hartford, Rio de Janeiro, Brazil	30.15	765.8	.....	.....	74	23.3	76	NW	2.4	1.1	.....	.....	8	.....	.....	0	0	.....	.....	Fair	
Marion, Villefranche, France	29.97	761.2	75	23.9	75	23.9	77	S	.....	.....	1	.....	10	.....	W	0	0	.....	.....	Cloudy	
Michigan, Erie, Pa	29.44	747.8	76	24.4	76	24.4	73	SW	.....	.....	1	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy	
Monocacy, Yokohama, Japan	29.71‡	754.6‡	.....	.....	79	26.1	82	W	.....	.....	1	.....	5	.....	SW	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C	30.27†	768.8†	.....	.....	83	28.3	79	E	8	3.6	.....	.....	2	.....	ESE	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	62	16.7	83	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Che-foo, China	29.61	752.1	77	25.0	71	21.7	100	SW	.....	.....	5	.....	8	.....	.....	.....	.....	Mod'ate	SW	Cloudy	
Pensacola, Mare Island, California	29.98	761.5	61	16.1	55	12.8	93	SSW	10	4.5	.....	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy	
Plymouth, New York, N. Y	30.05‡	763.3‡	.....	.....	77	25.0	82	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Ranger, Hong-Kong, China	29.99*	761.7*	.....	.....	86	30.0	79	Calm	.....	.....	0	.....	3	.....	Calm	.....	.....	.....	.....	D. clouds	
Rio Bravo, Brownsville, Texas	29.90	759.4	79	26.1	76	24.4	95	E	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Heavy rain	
Santee, Annapolis, Md	29.98‡	761.5‡	.....	.....	81	27.2	70	WSW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Hazy	
St. Louis, League Island, Pa	29.99	761.7	75	23.9	72	22.2	100	SE	6	2.7	.....	.....	10	.....	Calm	0	0	.....	.....	Foggy	
Supply, Havre, France	30.17	766.3	66	18.9	68	20.0	65	NNW	.....	.....	1	.....	2	.....	NNW	.....	.....	.....	.....	Clear	
Swatara, Boston, Mass	29.93‡	760.2‡	.....	.....	72	22.2	90	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Trenton, Leghorn, Italy	29.96‡	761.0‡	.....	.....	73	22.8	100	S	.....	.....	4–6	.....	2	.....	S	0	0	.....	.....	Clear	
Tuscarora, N. 17° 43', W. 101° 49'	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vandalia, Smyrna, Turkey	29.90‡	759.4‡	.....	.....	85	29.4	57	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass	29.92‡	760.0‡	.....	.....	80	26.7	68	WSW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wyoming, N. 63° 56', W. 31° 50'	29.61	752.1	57	13.9	54	12.2	87	W	.....	.....	7	.....	10	.....	W	.....	.....	Long rough	W	Drizzling	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

*It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10	Upper. From —	Lower. From —					
S. S. Alaska																			
S. S. China, N. 29° 39', E. 128° 08'		29.97*	761.2*	84	28.9	100	SW			4		1		SW	2 hours	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		29.98*	761.5*				NW			3		4		N				Fair	Capt. Seabury.
S. S. City of Peking, N. 38° 14', W. 123° 54'		30.00†	762.0†	54	12.2	100	WNW	17	7.6			10		NW		Mod.	WNW	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

S. S. Alaska																			
S. S. China, N. 29° 39', E. 128° 08'		29.97*	761.2*	84	28.9	100	SW			4		1		SW	2 hours	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		29.98*	761.5*				NW			3		4		N				Fair	Capt. Seabury.
S. S. City of Peking, N. 38° 14', W. 123° 54'		30.00†	762.0†	54	12.2	100	WNW	17	7.6			10		NW		Mod.	WNW	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		30.02*	762.5*	82	27.8		SW			2				W	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 50° 15', W. 32° 50'		30.19†	766.8†	60	15.6	88	W			6				W	8 hours	Mod'ate	W	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic																			
S. S. Oceanic, N. 38° 59' E. 137° 30'		29.77*	756.1*	82	27.8	91	SW			3		ks		SW	0	Smooth		Overcast	Capt. W. H. Kidley.
																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:36 a. m., Washington time. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 49° 53', W. 23° 7'		30.30	769.6	67.5	19.7	79	W			3		8			Blank		W	Misty	Capt. Undutz.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.31*	769.9*	68	20.0	90	WSW			5		8?		WSW	0			Cloudy?	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.03	762.7	75	23.9	95	SW			1		10		Calm	0			Dull	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.02†	762·5†	63	17.2	100	WNW			2		1		W	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian	Capt. W. Richardson.
S. S. Hibernian	
S. S. Scandinavian	

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schoone' Florence, About N. 66°, W. 66°		29.47*	748.5*	36.5	2.5	96	S			1		10s			0.05 in or 1.3 mm.			Misty	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 9, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum't'l error and temperature. Inches.	Barometer: Corrected for instrum't'l error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	29.98	761.6	69.4	20.8	82	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Dr. Ollive.
Nemours	.....	.....	29.95	760.7	74.7	23.7	81	E	.....	.....	4	.....	8	.....	.....	0	0	Very cloudy	Michel.
Algiers	.....	.....	29.87	758.6	75.6	24.2	93	NE	.....	.....	1	.....	8	.....	.....	0.039	1.0	Very cloudy	Tourillere.
La Calle	.....	.....	29.92	760.0	84.9	29.4	61	NE	.....	.....	1	.....	7	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	29.98	761.4	102.2	39.0	.....	SE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.10	764.5	84.2	29.0	.....	SSE	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Gau.
Saida	.....	.....	30.08	764.1	74.8	23.8	54	N	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	30.08	764.1	.....	.....	.....	SW	.....	.....	5	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	29.99	761.8	93.7	34.3	.....	SE	.....	.....	8	.....	5	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	29.99	761.7	95.0	35.0	16	W	.....	.....	6	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	30.04	762.9	100.4	38.0	.....	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

AUSTRIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum't'l error and temperature. Inches.	Barometer: Corrected for instrum't'l error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.43	747.6	29.96	760.9	75.7	24.3	57	NE	.....	.....	3	.....	10	.....	.....	0.661	16.8	.....	Prof. Ivan Stozu
Cracow, I. R. Observatory	29.22	742.2	29.98	761.4	63.3	17.4	63	W	.....	.....	3	.....	10	.....	.....	0.008	0.2	.....	Dr. Wierzbiski.
Eperies	29.07	738.4	29.93	760.2	65.1	18.4	67	NE	.....	.....	1	.....	10ks	.....	S	0	0	.....	Julius Mikolik.
Gratz	28.80	731.5	30.02	762.4	65.5	18.6	90	SW	.....	.....	2	.....	10	.....	.....	1.256	31.90	.....	Andreas Rospini.
Hermannstadt	28.49	723.7	29.84	758.0	76.3	24.6	51	NW	.....	.....	5	.....	1	.....	.....	0	0	.....	Prof. Roissenberg
Kremsmünster	28.68	728.5	30.00	761.9	68.3	17.4	68	NW	.....	.....	3	.....	10	.....	.....	0.067	1.7	.....	Prof. C. Wagner
Lemberg	28.91	734.3	29.87	758.7	63.9	17.7	69	W	.....	.....	2	.....	9	.....	.....	0.008	0.2	.....	Dr. T. Stanecki.
Pola	29.90	759.4	30.00	762.1	75.4	24.1	72	WNW	.....	.....	2	.....	7ck	.....	.....	0.098	2.5	.....	I. R. Hydrographic Office
Szathmar	29.49	749.0	29.94	760.5	72.7	22.6	60	W	.....	.....	2	.....	4	.....	.....	1.240	31.5	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.93	760.2	30.03	762.8	77.9	25.5	63	Calm	.....	.....	0	.....	1	.....	.....	0.236	6.0	Raining	P. Busin.
Vienna	29.34	745.2	30.05	763.2	61.3	16.3	93	WSW	.....	.....	1	.....	10	.....	.....	0.165	4.2	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum't'l error and temperature. Inches.	Barometer: Corrected for instrum't'l error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.64	727.5	30.11	764.9	66.0	18.9	44	SE	.....	.....	1	.....	0	.....	.....	0.024	0.6	.....	Prof. M. Passau.
Brussels	29.90	759.5	30.10	764.5	67.6	19.8	52	SSW	.....	.....	2	0	2	N?	SW	0.063	1.60	.....	Royal Observatory
Furnes	30.11	764.8	30.13	765.4	70.5	21.4	57	WNW	.....	.....	3	.....	4	.....	.....	0.114	2.9	.....	M. E. de Cae.
Maeseyck	30.00	762.0	30.13	765.2	68.9	20.5	69	SSW	.....	.....	2	.....	5	.....	.....	0.094	2.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.63	752.6	29.72	754.9	66.5	19.2	.....	SW	16	7.2	.....	.....	6	.....	.....	0.020	0.51	D. clouds.. ..	W. Boswell.
Ardrossan	29.84	757.9	29.86	758.4	60	15.6	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	George Carrick.
Armagh, Observatory	.....	.....	29.96	761.0	62.9	17.2	.....	W	8	3.6	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.96	761.0	62.1	16.7	.....	W	20	8.9	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.04	763.0	62.6	17.0	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.55	750.6	29.95	760.7	63.0	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	84	28.9	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.01	762.2	73.0	22.8	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	H. Todd. [H. C.
Cardington	.....	.....	30.04	763.0	73.0	22.8	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.98	761.5	30.11	764.8	67.2	19.6	.....	S	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.69	728.7	30.14	765.5	59.0	15.0	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	Gloomy.....	Alexander Watt.
Donaghadee	29.88	758.9	29.91	759.7	63	17.2	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.06	763.5	30.09	764.3	67	19.4	.....	SW	.....	.....	3	.....	3	.....	.....	.....	.....	Hazy.....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.94	760.5	61.0	16.1	.....	SW	1.6	0.7	.....	.....	10	.....	.....	.....	.....	Drizzling	Thomas Mackereth.
Falmouth, Observatory	29.92	760.0	30.15	765.8	63.2	17.3	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	The Staff.
Fort Napier, (Natal)	27.68	703.1	29.97	761.2	63.6	17.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.75	755.6	29.98	761.5	77	25.0	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	30.01	762.2	63	17.2	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.90	759.4	29.95	760.7	76.4	24.7	.....	E	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.62	752.3	29.83	757.7	62.2	16.8	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.01	762.2	30.02	762.5	72	22.2	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	C. T. Watson.
Greenwich, Royal Obs'y	29.68	758.9	30.05	763.3	69.3	20.7	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.95	760.7	30.16	766 1	65.5	18.6	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.. .	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.16	766.1	65	18.3	.....	SW	.....	.....	1	.....	4k	.....	.....	0	0	Foggy.....	M. P. Moyle.
Holyhead	29.93	760.2	29.98	761.5	64	17.8	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.92	760.0	30.21	767.3	63.2	17.3	.....	WSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	.....	.....	30.05	763.3	70.5	21.4	.....	WSW	15	6.7	.....	.....	9	.....	.....	.....	.....	Showery.....	The Staff.
Kingstown	29.96	761.0	29.99	761.7	64	17.8	.....	WNW	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.96	761.0	66 5	19.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.97	761.2	30.04	763.0	82	27.8	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Sgt. Hewitt A. H. C.
Nairn	29.62	752 3	29.71	754.6	64	17.8	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.04	763.0	83.8	28.8	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.79	756.7	29.98	761.5	60.2	20.7	.....	SW	.....	.....	6	.....	10cs	....	WSW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.48	748.8	30.01	762.0	64.8	18.2	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.07	763.8	72	22.2	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H.E. Bellamy.
Plymouth	30.05	763.3	30.13	765.3	66.9	19.4	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	30.04	763.0	30.09	764.3	63	17.2	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	29.87	758.7	30.03	762.7	61	16 1	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.68	753.9	57.1	13.9	.....	SW	19	8.5	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.91	759.7	87 0	30.6	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	29.71	754.6	29.98	761.5	65.9	18.8	.....	SW	.....	.....	5	.....	9	.....	.....	0.02	0.5	Overcast.....	W. F. Cooper.
Silloth Rectory	29.85	758.2	29.88	758.9	60.9	16.1	91	SW	.....	.....	3	.....	10	.....	.....	0.025	0.63	Overcast.....	C. Edith Redford.
Stonyhurst, Observatory	29.54	750.3	29.95	760.7	59.4	15.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. S. J. Perry.
Stornoway, Lews C. (Hebr.)	29.63	752.6	29.66	753.4	61	16.1	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.87	758.7	30.08	764.0	70.5	21.4	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.68	753.9	60	15.6	.....	WNW	.....	.....	2	.....	10	.....	.....	Blank	Blank	Gloomy.....	John Trotter.
Truro, Royal Institution	.....	.....	30.13	765.3	65	18.3	.....	W	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	30.14	765.5	61.2	16.2	.....	WNW	16	7.2	.....	.....	10	.....	.....	Blank	Blank	D. clouds....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	55 0	12.8	88	NW	.....	.....	6	.....	6k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.89	759.2	30.08	764.1	70.0	21.1	88	E	19.0	8.5	.....	2	8	.....	E	0.03	0.8	Overcast.....	C. Meldrum.
Melbourne, Observatory	30.02	762.5	30.11	764.8	53.1	11.7	60	N	25	11.2	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Li'-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Uns., (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—																	
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Moulland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 39° 55′ W. 67° 35′	.....	.....	30.13	765.3	74	23.3	.....	WSW	.....	.....	4	.....	1	.....	.....	4	.....	Hazy.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 61° 12′, W. 48° 10′	.....	.....	29.54	750.3	51	10.6	.....	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	Foggy	Capt. Alex Simpson
Barque Virginia, N. 45° 0′, W. 50° 30′	.....	.....	30.18	766.6	49	9.4	.....	NNW	.....	.....	4	.....	9	.....	.....	2	.....	Misty.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but *not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria,* (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.18	665.0	.....	.....	69.4	20.8	83	SE	.....	.....	1	.....	9kls	.....	.....	0.3	8.	.....	Federico Maison

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

DANISH SERIES.

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

Copenhagen	29.76	755.8	29.80	757.0	61.9	16.6	71	NW	.....	.....	2	.....	8	.....	.....	.....	.....	.....
Fanöe	29.89	759.3	29.91	759.8	61.3	16.3	76	W	.....	.....	4	.....	7	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.52	749.7	29.56	750.8	40.3	4.6	97	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy
Stykkisholm, (Iceland)	29.20	741.6	29.24	742.7	51.4	10.8	88	NW	.....	.....	6	.....	8	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.39	746.5	29.43	747.4	55.6	13.1	86	SW	.....	.....	4	.....	4	.....	.....	.....	.....	.....
Vestervig	29.66	753.4	29.83	757.7	61.2	16.2	77	SW	.....	.....	4	.....	4	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.65	753.1	30.20	767.1	69 8	21	50	SW	.....	.....	2	.....	8	.....	N	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	30.02	762.4	30.12	765.1	71.6	22.0	59	NW	.....	.....	3	.....	5	.....	NW	0	0	Cloudy.	Bonvallet, Director.
Avignon, Normal School	29.94	760.5	30.02	762.5	83.7	28.7	41	N	.....	.....	2	.....	0	.....	.....	0	0	Very clear..	Mr. Giraud, Director.
Bar-sur-Seine	29.57	751.1	30.12	765.0	71.2	21.8	43	ENE	.....	.....	2	.....	8kn	.....	W	0	0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.88	758.9	30.16	766.0	67.5	19.7	72	WSW	.....	.....	2	.....	2	.....	.....	0.138	3.50	Slightly cl'dy	Normal School.
Besançon	29.26	743.2	30.12	765.1	72.7	22.6	59	E	.....	.....	3	.....	2	.....	SW	0.091	2.3	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.25	742.9	30.18	766.6	75.4	24.1	59	N	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	Normal School.
Bourges, Normal School	29.47	748.6	30.07	763.8	71.2	21.8	56	NNW	.....	.....	1	.....	ks	.....	NNW	0	0	.....	A. Wagner, Director.
Brest, Naval Observatory	29.93	760.1	30.17	766.2	74.5	23.6	62	W	.....	.....	2	.....	9	.....	W	0	0	.....	The Staff.
Carcassonne, Normal School	29.71	754.7	30.11	764.8	78.1	25.6	54	W	.....	.....	2	.....	5	.....	W	0.31	8.	Cloudy..	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.58	751.2	30.12	765.0	75.6	24.2	71	NW	.....	.....	2	.....	8	.....	SE	0	0	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch	29.80	757.0	30.11	764.8	72.0	22.2	49	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.....	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.78	730.9	30.08	764.1	73.0	22.8	58	NE	.....	.....	2	.....	5	.....	N	0.260	6.6	Cloudy.....	Alluard, Director.
Commercy, Normal School	29.27	743.4	30.09	764.3	67.3	19.6	57	N	.....	.....	2	.....	2	.....	S	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grèasque*	28.95	735.3	30.09	764.3	82.8	28.2	40	W	.....	.....	2	.....	5	.....	SW	0	0	½ Covered ..	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.99	761.8	30.20	767.0	76.6	24.8	50	WNW	.....	.....	2	.....	2	.....	WNW	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.86	758.4	30.16	766.1	68.9	20.5	54	W	.....	.....	2	.....	5	.....	NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.20	741.6	30.09	764.2	71.8	22.1	49	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Baudry, Director.
Lorient, Naval Observatory	30.14	765.5	30.23	767.9	72.3	22.4	50	WSW	.....	.....	3	.....	8	.....	N	0.020	0.5	¼ Covered...	T. Carré, Director.
Mâcon, Normal School	29.41	747.0	30.07	763.8	73.4	23	66	.....	.....	.....	2	.....	5	.....	N	0	0	Cloudy	M. Galzin, Director
Mirecourt	29.66	738.0	30.07	763.7	67.6	19.8	59	N	.....	.....	1	.....	2	.....	S	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.81	757.1	30.00	762.0	83.8	28.8	30	N	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.69	754.1	30.06	763.5	79.7	26.5	48	N	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.90	759.5	30.14	765.5	68.7	20.4	44	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy.....	National Observatory.
Privas	28.98	736.0	30.02	762.4	77.0	25	51	N	.....	.....	4	.....	10	.....	N	0	0	Covered... ...	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.17	766.3	30.20	767.1	79.9	26.6	32	NW	.....	.....	2	.....	5	.....	NW	0.20	5.	¼ Covered..	Lt. Decante, Director.
Rouen, Normal School	30.10	764.6	30.19	766.7	73.6	23.1	47	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.14	740.1	30.21	767.2	64.4	18	80	SSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.39	746.4	30.07	763.6	80.8	27.1	63	N	.....	.....	4	.....	2	.....	NW	0.087	2.2	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.82	757.5	78.8	26	.....	.....	.....	.....	.....	.....	.....	.....	.....	8.94	227.	.....	L'Abbé Marchesi.
Lyons	.....	.....	30.18	766.5	75.0	23.9	39	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	30.01	762.3	76.1	24.5	65	W	.....	.....	1-2	.....	2	.....	.....	0	0	Slightly cl'dy	The Staff.
Mont-Louis	24.98	634.5	30.30	769.5	55.0	12.8	59	NNE	5.6	2.50	.....	.....	4	.....	SW	0.571	14.5	.....	M. Cave.
Nice	.....	.....	30.04	763.0	75.2	24.0	78	ESE	.....	.....	3	.....	3	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.85	758.3	30.13	765 3	69.8	20.7	47	W	.....	.....	2	.....	2	.....	NNW	Inap.	Inap.	.....	Marié Davy, Director
Perpignan	.....	.....	30.09	764.2	79.0	26.1	53	N	11.2	5.00	.....	.....	6	.....	W	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.71	576.9	.....	.....	39.0	3.9	.....	NE	.....	.....	2	.....	10	.....	.....	0.705	17.9	Stormy.....	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.97	761.2	30.13	765.4	71.6	22.0	48	W	.....	.....	1	.....	1	.....	W	0	0	.....	E. Renou.
Toulouse, Observatory	29.45	748.1	30.18	766.6	73.9	23.3	52	NNW	.....	.....	3	.....	5	.....	.....	0	0	.....	The Staff.
Tours	29.95	760.7	30.15	765.7	74.1	23.4	54	NNE	.....	.....	1	.....	5	.....	NNW	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.15	765.8	72.0	22.2	44	N	.....	.....	2	.....	7	.....	.....	0	0	Fair...	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.68	753.8	29.71	754.5	82.6	28.1	95	SE	4.7	2.1	.....	.....	10kls	.....	.....	0	0	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.15	740.4	29.99	761.8	66.7	19.3	55	NW	.....	.....	4	.....	1	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.82	757.4	29.99	761.7	65.8	18.8	48	W	.....	.....	1	.....	9	.....	.....	0.075	1.9	Raining	Prof. Arndt.
Breslau	29.50	749.4	30.04	762.9	62.8	17.1	46	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.67	753.7	30.10	764.4	68.7	20.4	61	NE	.....	.....	1	.....	1	.....	.....	0.039	1.0	.....	Albert Senz.
Cassel	29.44	747.7	30.05	763.2	66.9	19.4	52	NW	.....	.....	2	.....	3	NW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.92	760.0	30.08	764.1	70.7	21.5	50	SW	.....	.....	4	.....	2k	.....	.....	0	0	.....	Director Lose.
Emden	30.03	762.7	30.07	763.7	61.5	16.4	60	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.80	756.9	30.15	765.9	68.4	20.2	.....	W	.....	.....	2	.....	3	.....	.....	Inap.	Inap.	.....	Physical Society.
Friedrichshafen	28.68	728.4	30.07	763.8	69.3	20.7	68	SW	.....	.....	3	.....	8	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.94	760.5	30.01	762.3	61.5	16.4	78	NW	.....	.....	6	.....	9k	.....	.....	.....	.....	Showery	Captain F. Hegemann.
Kiel	29.91	759.8	29.93	760.2	62.4	16.9	61	W	.....	.....	6	.....	10	.....	.....	0.088	2.23	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.73	755.1	29.81	757.1	65.5	18.6	61	W	.....	.....	5	.....	4	.....	.....	Inap.	Inap.	.....	Prof. E Luther.
Köslin	.....	.....	29.91	759.8	62.2	16.8	.....	W	.....	.....	4	.....	3	.....	.....	0.201	5.1	.....	H. Müller.
Leipsic, Observatory	29.67	753.5	30.08	764.0	65.1	18.4	49	WNW	.....	.....	3	.....	8	WNW	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.74	755.3	29.78	756.5	62.2	16.8	67	WNW	.....	.....	3	.....	5c	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.84	757.9	29.85	758.3	61.9	16.6	75	W	.....	.....	3	.....	9	.....	.....	0.142	3.6	.....	A. Lothes.
Posen	29.73	755.1	30.01	762.3	61.2	16.2	71	W	.....	.....	5	.....	9	.....	.....	0.012	0.3	.....	Dr. Magener.
Strassburg (in Alsace)	29.59	751.5	30.12	765.1	69.8	21.0	61	E	.....	.....	3	.....	3	WNW	.....	0	0	.....	Astronomical Observatory.
Stuttgart	29.15	740.4	30.07	763.6	68.9	20.5	54	N	.....	.....	1	.....	6	W	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.47	748.4	29.99	761.7	69.8	21.0	42	SE	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.61	726.6	30.07	763.6	64.2	17.9	54	NNW	4	2	.....	.....	5k	.....	NW	0.004	0.1	.....	Dr. Von Bebber.
Wustrow, Naval School	29.89	759.3	29.93	760.3	61.7	16.5	77	W	.....	.....	5	.....	10	.....	.....	0	0	.....	E. F. Schütz.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.57	751.1	29.94	760.5	90.0	32.2	.....	S	.....	.....	2.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

INDIAN SERIES.

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

Kurrachee	29.57	751.2	29.62	752.4	88.1	31.2	69	WSW	33?	14.8?	.....	.....	9	.....	WSW	0	0	D. clouds	
Deesa	29.16	740.6	29.62	752.4	89.4	31.9	72	S	.....	.....	.....	.....	3	ENE	W	0.02	0.5	Misty	
Bombay	29.72	754.8	29.75	755.7	78.5	25.8	90	WSW	11	4.9	.....	.....	10	.....	WNW	0.80	20.3	Overcast	
Poona	27.75	704.7	29.75	755.7	74.9	23.8	84	NW	.....	.....	.....	.....	10	.....	NW	0.43	10.9	Showery	
Lahore	28.82	732.1	29.55	750.6	88.1	31.2	59	E	2.7	1.2	.....	.....	2	.....	.....	0	0	.....	
Belgaum	27.29	693.1	29.84	757.8	72.9	22.7	88	W	13	5.8	.....	.....	9	NE	W	0.10	2.5	D. clouds	
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Roorkee	28.69	728.8	29.68	751.3	83.5	28.8	77	SE	2.2	1.0	.....	.....	6	.....	.....	0.36	9.1	.....	
Agra	29.04	737.6	29.60	751.8	83.7	28.7	81	E	10	4.5	.....	.....	.....	.....	.....	.....	.....	Raining	
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nagpur	28.62	726.8	29.64	752.9	86.1	30.1	71	Calm	5.9	2.6	.....	.....	3	.....	.....	0.55	14.0	D. clouds	
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Lucknow	29.21	741.8	29.57	751.1	84.3	29.1	87	SSW	6.3	2.8	.....	.....	10	.....	.....	0.5	12.7	Overcast	
Allahabad	29.27	743.4	29.57	751.1	88.7	31.5	72	N	3.2	1.4	.....	.....	10	S	.....	0.02	0.5	Overcast	
Patna	29.46	748.3	29.64	752.8	83.6	28.7	83	E	0.8	0.4	.....	.....	10	E	E	0.16	4.1	Overcast	
Hazaribagh	27.67	702.8	29.64	752.9	85.3	29.6	69	WSW	8.8	3.9	.....	.....	9	.....	SW	.....	.....	Raining	
Cuttack	29.60	751.9	29.68	753.9	90.1	32.3	56	S	6.4	2.9	.....	.....	2	.....	.....	0	0	D. clouds	
Calcutta (Alipore)	29.66	753.2	29.68	753.8	86.8	30.4	76	SW	6.0	2.7	.....	.....	2	S	.....	0	0	D. clouds	
Goalpara	29.28	743.8	29.67	753.7	77.8	25.4	92	Calm	1.7	0.8	.....	.....	5	.....	.....	0.29	7.4	D. clouds	
Chittagong	29.69	754.1	29.78	756.4	84.9	29.4	79	SSW	8.5	3.8	.....	.....	2	.....	.....	0	0	.....	
Sibsagar	29.31	744.5	29.64	752.9	85.3	29.6	78	SW	4.2	1.9	.....	.....	10	.....	.....	0	0	D. clouds	
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Jubbulpore	28.31	719.2	29.67	753.5	82	27.8	73	NW	6.2	2.8	.....	.....	7	E	.....	0.15	3.8	D. clouds	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. —10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.61	752.1	30.01	762.2	76.8	24.9	63	SW	2.5	1.1			5			0	0		Prof. Giovanni Clodig.
Padua	29.90	759.5	30.01	762.2	76.8	24.9	60	WSW	3.8	1.7			5	SW		0.051	1.3		Prof. Dott. Lorenzoni
Vicenza	29.82	757.4	30.00	762.1	77.0	25.0	62	S	1.3	0.6			3	E		0	0		Conte Alm. Da Schio.
Bergamo	28.71	729.2	29.98	761.4	78.1	25.6	67	SW			2		4			0	0		Prof. Trionfini Carlo.
Milan	29.50	749.2	29.99	761.8	80.2	26.8		SW			2		3	W		0	0		Prof. Schiaparelli.
Moncalieri	29.11	739.5	29.98	761.6	77.7	25.4	52	NNW	3.1	1.4			3			0	0		Prof. P. F. Denza.
Mondovi	28.13	714.4	29.97	761.1	76.5	24.7	52	SE			2		3	W		0	0		Prof. D. C. Bruno.
Porto Maurizio	29.82	757.4	30.04	762.9	71.6	22.0	85	E			6		5	E		0	0		Prof. L. Vassallo.
Genoa	29.88	759.0	30.05	763.2	74.7	23.7	71	SW	6.9	3.1			1	S		0	0		Prof. G. M. Garibaldi.
Parma	29.69	754.2	30.00	762.0	79.0	26.1	54	NE			4		4			0.071	1.8		Prof. P. Pigorini.
Florence	29.77	756.1	30.02	762.4	85.6	29.8	33	SE			2		10	SW		0	0		Cav. F Meucci.
Leghorn	29.94	760.5	30.02	762.6	77.4	25.2	70	S	11.9	5.3			10	S		0	0		Prof. P. Monte.
Pesaro	29.69	761.7	30.04	762.9	75.6	24.2	70	NE					10			0	0		Prof. Luigi Guidi.
Urbino	28.52	724.4	30.02	762.6	77.2	25.1	40	SW			1		5			0	0		Prof. P. Serpieri.
Grosseto	29.94	760.5	30.05	763.2	81.7	27.6	54	SSE			4		3	S		0	0		Avv. P. Ponticelli.
Rome	29.88	759.0	30.05	763.3	82.8	28.2	48	W	5.6	2.5			3			0	0		Prof. P. G. S. Ferrari.
Naples, O. U	29.88	758.9	30.07	763.8	82.8	28.2	38	SW			2		0			0	0		Prof. L. Palmieri.
Lecce	29.75	755.6	29.99	761.8	86.4	30.2	36	W	2.5	1.1			0			0	0		Prof. C. De Giorgi.
Cagliari	29.74	755.4	29.93	760.1	79.9	26.6	59	SE			4		2	W		0	0		Prof. A. Pacinotti.
Cosenza	29.13	739.9	29.97	761.3	86.4	30.2	58	SW	3.8	1.7			0			0	0		Prof. F. D. Conti.
Palermo	29.79	756.7	30.04	763.0	78.1	25.6	61	NE	4.9	2.2			0			0	0		Prof. G. Cacciatore.
Syracuse	29.89	759.1	29.96	761.0	87.4	30.8	31	SE			2		0			0	0		Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.52	749.9	30.08	764.0	82.2	27.9	43	SSW	0	0			1	SW		0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.65	753.1	29.85	758.2	79.9	26.6	85	SW	14.4	6.5			10ck;s	SW	SW	0.005	0.13	Cloudy	
Tokei (Yeddo)	29.68	753.9	29.74	755.4	75.8	24.3	95	SSE	2.5	1.1			10s			0	0	Foggy	The Observatory.
Tokei (Yeddo) University	29.62	752.3	29.71	754.7	77	25.0	98	Calm	0	0			10ks			0.06	1.5	Cloudy	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca																			L. Castillo, A. E.
Guadalajara	25.05	636.2	29.99	761.8	69.9	15.0	87	SW	0.9	0.4		0	9			1.60	40.6	Very cloudy	Prof. L. Perez.
Guanajuato	23.68	601.6	29.88	759.1	63.3	17.4	87	Calm	0	0		0	9			0.21	5.2	Very cloudy	Prof. V. Fernandez
Leon					64.6	18.1	96	SW	1.8	0.8		0	10m		NE	0.79	20.0	Covered	Prof. M. Leal.
Mexico	23.09	586.6	30.04	763.0	59.5	15.3	87	NE	0.4	0.2		0	10k	E	E	0.15	3.4	Covered	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalts)					63.1	17.3	95	Calm	0	0		0	10n			0.43	11.0	Raining	M. V. de Leon, M. E.
Puebla																0.45	11.4	Raining	Prof. B. Gonzalez.
Toluca																			Prof. C. Velazquez.
Tlacotalpam	29.91	759.8	29.93	760.0	78.8	26.0	88	S	0.9	0.4		10ck	0			0.02	0.5	Dark	Prof. F. R. Bayly.
San Luis Potosi	24.23	614.8	30.14	765.6	63.0	17.2	40	E	0.9	0.4		0	10n		E	1.30	33.0	Rainy	G. Barroeta, M. D.
Vera-Cruz	29.94	760.5	29.97	761.2	82.4	28.0	85	Calm	0	0		0	10sk			0.08	2.0	Dark	Prof. J. Rossell.
Zacatecas					58.5	14.7	89	NNE	1.8	0.8		0	10		E	2.21	56.0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.30	592.0	30.04	763.0	66.7	19.7	75	NW	2.2	1.0		2	8			0.60	15.3	Covered	Prof. P. Spina. (M.M. D. D
Morelia	24.09	612.0			66.2	19.0	60	NE				0	10k			0.78	19.7	Covered	M. Tena, F. L. Paramo,
Durango	24.32	617.6	30.11	764.9	69.4	20.8	85	N	1.8	0.8		3ck	1s			0	0	½ cloudy	M. V. de Leon, C. E.
Colima	28.34	719.7	29.99	761.1	78.4	25.8	88						10k			0	0	Very cloudy	R. Banda, C. E
San Juan E. Michapam																			Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,881 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	30.11	764.8	30.11	764.8	71.2	21.8		W			4					0	0		
Groningen	29.57	761.2	30.02	762.6	64.6	18.1		WSW			2					0	0		
Helder	30.04	763.0	30.04	763.0	65.3	18.5		SW			4					0.059	1.5		
Hellevoetsluis	30.07	763.6	30.07	763.6	70.9	21.6	54	SW			3								
Utrecht	30.04	763.0	30.09	764.2	71.1	21.7	47	SW			3		2			0	0	Light cloudy	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.77	756.1	29.82	757.5	63.3	17.4	54	SSW	11.0	4.9	.....	.....	0	.....	.....	0	0	....	
Brönö	29.76	755.9	29.80	756.9	57.2	14.0	65	NNW	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.63	752.5	29.77	756.1	71.2	21.8	46	SW	7	3	.....	.....	3	.....	.....	0.012	0.3	.....	
Tromsö	29.82	757 4	29.86	758.5	53.6	12.0	45	NE	4	2	.....	.....	0	.....	.....	0	0	...	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.37	771.3	30.56	776.1	72.0	22.2	84	E	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.03	737.4	30.01	762.2	82.4	28.0	27	NE	16.8	7.5	.....	.....	3	NE	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.02	762.5	30.11	764.7	76.1	24.5	51	SW	8.0	3.6	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.2	30.04	763.0	79.3	26.3	28	NNE	29.8	13.3	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.44	773.1	30.51	774.9	72.0	22.2	81	NE	16.1	7.2	.....	.....	3	.....	.....	0	0	.....	

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

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	Blue sky.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.48	748.7	29.89	759.2	62.8	17.1	47	WSW	16	7	.....	.....	8ck;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.33	745.0	29.74	755.4	61.9	16.6	70	W	2	1	.....	.....	8	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.34	745.2	29.57	751.1	66.9	19.4	60	NW	7	3	.....	.....	5k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.47	748.6	29.49	749 0	54.1	12.3	71	NW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.15	740.3	29.76	755.8	65.5	18.6	83	NW	4	2	.....	.....	10ks;n	.....	.....	.....	.....	Light rain...	Physical Cabinet.
Nikolaiev	29.78	756.4	29.85	758.2	90.0	32.2	39	SSW	31	14	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.97	761.1	29.98	761.3	78.8	26.0	67	S	9	4	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.11	739.4	29.64	752.9	61.0	16.1	83	S	9	4	.....	.....	10s	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.61	752.2	29.81	757.1	83.5	28.6	40	WSW	13	6	.....	.....	6n	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.15	740.3	29.17	740.8	63.5	17.5	94	NNE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.59	726.2	29.93	760.1	87.6	30.9	36	E	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.98	761.4	29.89	759.3	83.3	28.5	46	SSW	11	5	.....	.....	8k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.29	743.9	29.54	750.3	73.2	22.9	43	W	4	2	.....	.....	4	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.57	725.7	29.47	748.5	69.8	21.0	54	WSW	9	4	.....	.....	8k;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.60	751.7	29.82	757.3	84.7	29.3	60	NNE	13	6	.....	.....	1ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.15	715.0	29.73	755.1	87.4	30.8	59	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.01	736.9	29.49	749.1	83.3	28.5	34	NNE	0	0	.....	.....	7	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.27	743.5	29.55	750.5	71.4	21.9	51	WNW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.45	747.9	29.59	751.5	79.7	26.5	59	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.93	760.2	30.03	762.8	77.2	25.1	58	SW	1.5	0.67	.....	6	2	W	.....	0.150	3.81	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.17	766.2	30.22	767.6	70.5	21.4	86	NW	3.4	1.50	.....	2	5	SW	.....	0.524	13.3	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.25	692.2	.....	.....	63.1	17.3	62	N	9.4	4.19	.....	.....	5	.....	.....	0	0	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.90	708.6	30.07	763.6	70.9	21.6	51	NE	17.2	7.67	.....	0	9	.....	.....	0.024	0.6	Almost cov.	The Staff.
Murcia, Met. Obs'y	29.85	758.3	30.00	762.0	82.9	28.3	46	NE	4.6	2.06	.....	4	4	W	.....	0.002	0.05	.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.35	745.4	30.23	767 7	70.7	21.5	60	NE	1.7	1.50	.....	5	0	NE	.....	0	0	Cloudy.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	759.9	29.98	761.6	82.2	27.9	78	ESE	7.6	3.4	.....	2ck	0	.....	.....	0.244	6.2	Clear	Benito Vines, S. J
Manilla, Philippine Islands, San Fernando, Naval Obs'y	29.87	758.6	29.96	761.0	84.4	29.1	42	ESE	19.9	8.9	.....	2	7	E	E	0	0	.....	Federico Faura, S. J.
San Juan de Porto Rico, W. I.	29.88	759.0	29.97	761.3	76.3	24.6	92	SE	13.6	0.09	.....	5n	5n	SE	SE	3.307	84.00	Overcast....	Capt. C. Pujazon, R. N., Dir. Leonardo de Tejeda, Ch'f Eng'rs

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.0	29.72	755.0	62.5	11.4	.....	N	.....	.....	6	.....	8	.....	.....	0	0	.....	
Umea	29.70	754.4	29.75	755.7	55.4	13.0	57	E	.....	.....	7	.....	6	.....	.....	0.102	2.6	.....	
Hernosand	29.67	753.6	29.72	754.9	64.0	17.8	52	SSW	.....	.....	4	.....	4	.....	.....	0	0	.....	
Stockholm	29.58	751.4	29.76	755.9	62.6	17.0	44	ENE	.....	.....	4	.....	6	.....	.....	0.063	1.6	.....	
Wisby	29.67	753.5	29.72	755.0	60.1	15.6	75	NNW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.67	753.7	29.75	755.6	62.4	16.9	53	NNE	9.2	4.1	.....	.....	8	ESE	N	0	0	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.68	728.5	30.06	763.4	72.0	22.2	53	NNW	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.48	723.5	30.07	763.7	70.7	21.5	62	NW	.....	.....	.....	.....	4	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.0 mm.; Thermometer, +0.2 cent.; Relative Humidity, +1 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.98	761.5	81.0	27.2	44	NE	11	5.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.15	766.8	81.0	27.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.68	753.9	29.80	756.8	87.4	30.8	51	NNW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.69	754.0	29.66	753.4	76	24.4	90	SW	6	2.7	.....	8c	3n	NW	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.3	29.87	758.7	83	28.3	.....	SW	5	2.2	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.68	753.9	29.74	755.4	72	22.2	90	SW	1	0.4	.....	5cs	5ks	Calm	Calm	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.77	756.1	29.81	757.2	64	17.8	86	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.62	752.3	29.80	756.9	76.7	24.8	81	W	.....	.....	2	0	3s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	71.8	22.1	84	W	.....	.....	1	.....	.....	.....	.....	0	0	Hazy	H. A. Johnson.
Esquimault, B. C	29.80	756.9	29.85	758.2	54.2	12.3	90	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.62	752.3	29.64	752.8	70	21.1	82	W	15	6.7	.....	2k	Sm'e	W	Calm	0	0	Smoky	J. McWilliams.
Fredericton, N. B	29.74	755.4	29.80	756.9	75.2	24.0	76	SE	6	2.7	.....	8ck	0	W	.....	0.25	6.3	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.04	737.6	29.87	758.7	57	13.9	90	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.88	733.5	29.93	760.2	74	23.3	86	Calm	.....	.....	0	0	0	.....	.....	.....	.....	.....	James Grant.
*Halifax, N. S	29.74	755.4	29.87	758.7	60	15.6	98	SE	3	1.3	.....	.....	10n	.....	.....	0.05	1.3	Clear	F. Allison, M. A.
Hamilton, Ontario	29.61	752.1	29.96	761.0	74.6	23.6	81	SW	.....	.....	2	0	0	.....	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	30.07	763.8	30.09	764.3	55	12.8	74	SW	.....	.....	2	4cs	3ks	Calm	.....	0	0	Clear	Geo. Dickson, M. A.
*Kingston, Ontario	29.57	751.1	29.89	759.2	76	24.4	74	W	5	2.2	.....	5c	0	Calm	.....	0	0	Cloudy	E. Weedon.
Little Glace Bay, N. S	29.85	758.2	29.89	759.2	62.0	16.7	.....	SW	18	8.0	.....	.....	10n	.....	.....	Inap.	Inap.	Fair	S. Woods, M. A.
*Montreal, Quebec	29.61	752.1	29.80	756.9	76	24.4	82	W	11	4.9	.....	8k	2ks	.....	.....	0	0	Overcast	C. H. Rigby.
*Parry Sound, Ontario	29.26	743.2	29.92	760.0	73	22.8	81	W	4	1.8	.....	0	0	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
Peterboro, Ontario	29.18	741.2	29.89	759.2	75.2	24.0	79	Calm	.....	.....	0	.....	10ks	.....	.....	0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario	29.28	743.7	29.94	760.5	73	22.8	95	Calm	0	0	.....	.....	Haze	.....	.....	0	0	Cloudy	J. F. Jeffers, B. A.
Port Hastings, N. S	29.84	757.9	29.89	759.2	61.3	16.3	.....	SW	2	0.9	.....	.....	.....	.....	.....	0.08	2.0	Hazy	H. Morgan.
Port Stanley, Ontario	29.33	745.0	29.95	760.7	72	22.2	92	NW	8	3.6	.....	.....	8ks	.....	NW	0	0	Fine	Peter Grant.
*Quebec, Quebec	29.47	748.5	29.77	756.1	75	23.9	81	W	.....	.....	2	.....	10n	.....	W	0	0	Cloudy	M. Payne.
*Rockliffe, Ontario	29.41	747.0	29.84	757.9	74	23.3	74	NW	6	2.7	.....	.....	8s	.....	NW	0	0	Cloudy	Capt. Ashe, R. N
St. Andrews, N. B	29.79	756.7	29.84	757.9	59	15.0	85	E	.....	.....	1	5k	2ks	W	.....	0	0	Fair	W. H. McIntyre.
St. John, N. B	29.69	754.1	29.85	758.2	57	13.9	93	SE	8	3.6	.....	.....	Fog	.....	.....	0	0	Cloudy	Dr. Gove.
*Saugeen, Ontario	29.26	743.2	29.94	760.5	72	22.2	73	W	2	0.9	.....	0	0	.....	.....	0	0	Foggy	G. Murdock, C. E.
Stayner, Ontario	29.17	740.9	29.91	759.7	72	22.2	66	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stratford, Ontario	28.70	729.0	29.92	760.0	71.0	21.7	80	E	3	1.3	.....	3cs	2s	.....	.....	0.02	0.5	Clear	R. J. Cole.
*Sydney, C. B	29.88	758.9	29.91	759.7	61	16.1	92	SW	10	4.5	.....	.....	10n	.....	.....	0.076	1.93	Fair	C. J. MacGregor, M. A.
*Toronto, Ontario	29.58	751.3	29.95	760.7	73	22.8	84	W	2	0.9	.....	2ck	5ks	W	S	0.02	0.5	Cloudy	T. C. Hill.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			J. Montgomery.
St. Johns, Newfoundland	.....	.....	.....	.....	52.5	11.4	86	S	.....	.....	.....	5	5	.....	.....	Inap.	Inap.	Cloudy	John Delany.

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

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0-10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.68	753.9	29.90	759.4	78	25.6	78	S	6	2.7	.....	1k	5ks	W	W	0.08	2.0	Fair	
Alpena, Michigan	29.26	743.2	29.88	758.9	70	21.1	70	SW	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Atlantic City, New Jersey	30.00	762.0	30.02	762.5	71	21.7	90	S	14	6.3	.....	8ck;k	0	Calm	.....	0.03	0.8	Fair	
Augusta, Georgia	29.97	761.2	30.14	765.5	79	26.1	74	SE	3	1.3	.....	2c	Haze	Calm	.....	0	0	Fair	
Baltimore, Maryland	29.95	760.7	30.00	762.0	81	27.2	74	SW	8	3.6	.....	2ck	2s	Calm	Calm	0.02	0.5	Fair	
Barnegat, New Jersey	29.99	761.7	30.01	762.2	66	18.9	90	S	15	6.7	.....	8k	2s	SW	SW	0.05	1.3	Cloudy	
Bismarck, Dakota	28.14	714.7	30.00	762.0	63	17.2	67	NE	10	4.5	.....	2cs	0	Calm	.....	0	0	Clear	
BoiseCity, Idaho	27.08	687.8	29.96	761.0	55	12.8	73	W	1	0.4	.....	0	0	.....	.....	0.05	1.3	Clear	
Boston, Massachusetts	29.77	756.1	29.91	759.7	78	25.6	69	SW	16	7.2	.....	8ck	0	W	.....	0	0	Fair	
Brackettville, Texas	28.87	733.3	29.87	758.7	75	23.9	81	SE	1	0.4	.....	0	2s	.....	SE	Inap.	Inap.	Fair	
Breckenridge, Minnesota	28.87	733.3	29.82	757.4	63	17.2	89	S	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Brownsville, Texas	29.93	760.2	29.99	761.7	82	27.8	87	Calm	0	0	.....	8c	0	Calm	.....	0.14	3.6	Fair	
Buffalo, New York	29.25	742.9	29.91	759.7	73	22.8	85	SW	6	2.7	.....	1ck	8ks	Calm	W	0.05	1.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	44	S	.....	.....	1	5k	0	SW	.....	0	0	Fair	
Burlington, Vermont	29.59	751.6	29.83	757.7	77	25.0	77	S	8	3.6	.....	5k	0	W	.....	0.07	1.8	Fair	
Cairo, Illinois	29.65	753.1	30.02	762.5	76	24.4	91	S	2	0.9	.....	.....	10s	.....	Calm	0.45	11.4	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	58	NE	.....	.....	1	2k	0	W	.....	0	0	Fair	
Camp Grant, Arizona	25.17	639.3	29.97	761.2	72	22.2	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.66	677.2	30.15	765.8	72	22.2	12	Calm	.....	.....	0	c	0	.....	.....	0	0	Clear	
Campo, California	27.30	693.4	29.87	758.7	42	5.6	83	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.16	766.1	30.16	766.1	77	25.0	86	SE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.09	764.3	30.12	765.0	75	23.9	81	SW	16	7.2	.....	5cs	Haze	SW	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.14	765.5	30.15	765.8	80	26.7	70	S	17	7.6	.....	2k	0	S	.....	0	0	Fair	
Cape May, New Jersey	30.00	762.0	30.03	762.7	76	24.4	81	S	12	5.4	.....	1k	Haze	SW	Calm	0	0	Fair	
Charleston, South Carolina	30.10	764.5	30.16	766.1	82	27.8	71	S	6	2.7	.....	5k	0	E	.....	0	0	Fair	
Cheyenne, Wyoming	24.11	612.4	30.05	763.3	56	13.3	81	NE	4	1.8	.....	.....	10s	.....	N	0	0	Threatening	
Chicago, Illinois	29.26	743.2	29.92	760.0	77	25.0	77	SE	2	0.9	.....	2cs	Sm'e	Calm	.....	Inap.	Inap.	Fair	
Cincinnati Ohio	29.34	745.2	29.96	761.0	77	25.0	82	SW	5	2.2	.....	.....	10s	.....	SW	0.15	3.8	Threatening	
Cleveland, Ohio	29.24	742.7	29.93	760.2	75	23.9	90	S	7	3.1	.....	5k	5ks	SW	Calm	2.61	66.3	Cloudy	
Columbus, Ohio	29.20	741.7	29.96	761.0	77	25.0	86	N	.....	.....	1	.....	10s	.....	Calm	0.23	5.8	Cloudy	
Conchо, Texas	28.10	713.7	29.72	754.9	71	21.7	85	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.56	750.8	30.01	762.2	76	24.4	86	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.34	745.2	29.94	760.5	75	23.9	77	NE	1	0.4	.....	4cs	Haze	NW	Calm	0	0	Fair	
Denison, Texas	29.21	741.9	29.97	761.2	79	26.1	82	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	60	15.6	82	N	8	3.6	.....	.....	10s	.....	N	0	0	Cloudy	
Detroit, Michigan	29.28	743.7	29.92	760.0	72	22 2	85	NW	6	2.7	.....	0	0	.....	.....	0.83	21.1	Clear	
Dodge City, Kansas	27.32	693.9	29.47	748.5	76	24.4	69	S	20	8.9	.....	2ck	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.26	743.2	29.92	760.0	74	23.3	81	E	1	0.4	.....	10cs	Fog	Calm	Calm	0	0	Cloudy	
Duluth, Minnesota	29.20	741.7	29.84	757.9	67	19.4	74	SW	6	2.7	.....	.....	10s	.....	SW	0.05	1.3	Cloudy	
Eagle Pass, Texas	29.24	742.7	29.96	761.0	77	25.0	86	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
Eastport, Maine	29.74	755.4	29.81	757.2	57	13.9	81	S	4	1.8	.....	10ck;k	Haze	W;NW	Calm	Inap.	Inap.	Cloudy	
El Paso, Texas	.....	.....	.....	.....	85	29.4	44	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.23	742.4	29.90	759.4	77	25.0	82	S	3	1.3	.....	2k	0	W	.....	0.10	2.5	Fair	
Escanaba, Michigan	29.26	743.2	29.88	758.9	75	23 9	60	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	82	27.8	49	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.24	641.1	30.20	767.1	72	22.2	67	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.45	748.0	29.96	761.0	81	27.2	83	E	4	1.8	.....	2cs	2ks	S	E	0.15	3.8	Fair	
Fort Griffin, Texas	28.75	730.2	29.97	761.2	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.82	757.4	77	25.0	77	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.98	761.5	30.02	762.5	84	28.9	83	NE	4	1.8	.....	8k	0	S	.....	0	0	Fair	
Grand Haven, Michigan	29.30	744.2	29.92	760.0	77	25.0	73	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.20	741.7	29.94	760.5	76	24.4	86	SW	3	1.3	.....	.....	10s	.....	SW	0.56	14.2	Cloudy	
Indianola, Texas	29.99	761.7	30.02	762.5	81	27.2	91	E	10	4.5	.....	8ck	1ks	SW	Calm	0	0	Cloudy	
Jacksboro, Texas	28.86	733.0	29.95	760.7	76	24.4	91	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.06	763.5	30.08	764.0	84	28.9	71	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.33	745.0	29.91	759.7	80	26.7	74	SE	3	1.3	.....	2ck	5s	NW	Calm	0	0	Fair	
Key West, Florida	29.96	761.0	30.00	762.0	81	27.2	83	SE	7	3.1	.....	.....	10s;ks	.....	SE	0.69	17.5	Threatening	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	78	25.6	69	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.12	739.6	30.08	764.0	76	24.4	86	Calm	0	0	.....	5ck	5ks	W	SW	0.47	11.9	Cloudy	
La Crosse, Wisconsin	29.18	741.2	29.88	758.9	72	22.2	80	S	6	2.7	.....	5c	0	S	.....	0	0	Fair	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	70	21.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.58	751.3	29.91	759.7	79	26.1	87	S	2	0.9	.....	10k	0	E	.....	Inap.	Inap.	Cloudy	
Lead City, Dakota	24.87	631.7	.....	.....	51	10.6	86	S	1	0.4	.....	2cs	0	W	.....	0.08	2.0	Fair	
Leavenworth, Kansas	29.17	740.9	29.98	761.5	70	21.1	90	N	20	8.9	.....	.....	10n	.....	NW	0.13	3.3	Thunder-storm	
Los Angeles, California	29.50	749.3	29.83	757.7	61	16.1	82	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.45	748.0	29.98	761.5	75	23.9	81	SW	4	1.8	.....	.....	10s	.....	SW	1.10	27.9	Cloudy	
Lynchburg, Virginia	29.35	745.5	29.99	761.7	81	27.2	67	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.17	740.9	29.83	757.7	71	21.7	66	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.39	721.1	30.09	764.3	69	20.6	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.72	754.9	30.03	762.7	76	24.4	90	SE	4	1.8	.....	.....	10s	.....	SW	0.94	23.9	Cloudy	
Milwaukee, Wisconsin	29.25	742.9	29.94	760.5	72	22.2	80	W	4	1.8	.....	5cs	0	W	.....	0	0	Fair	
Mobile, Alabama	30.03	762.7	30.07	763.8	79	26.1	87	NE	4	1.8	.....	6c;k	0	Calm ;NE	.....	0.02	0.5	Fair	
Montgomery, Alabama	29.86	758.4	30.09	764.3	80	26.7	70	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	28.98	735.1	29.93	761 5	75	23.9	81	SW	8	3.6	.....	.....	10s	.....	SW	0.10	2.5	Threatening	
Mt. Washington, N. H.	23.87	606.3	30.23	767.8	57	13.9	100	NW	30	13.4	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.53	750.0	30.03	762.7	82	27.8	67	SE	3	1.3	.....	0	5s	.....	S	3.14	79.8	Fair	
New Haven, Connecticut	29.87	758.7	29.98	761.5	77	25.0	82	SW	4	1.8	.....	5ck	5s	SW	.....	0 19	4.8	Cloudy	
New London, Connecticut	29.93	760.2	29.98	761.5	77	25.0	77	SW	13	5.8	.....	2ck	5s	W	W	0	0	Fair	
New Orleans, Louisiana	29.98	761.5	30.04	763.0	84	28.9	75	N	4	1.8	.....	5c	0	N	.....	0	0	Fair	
Newport, Rhode Island	29.92	760.0	29.97	761.2	70	21.1	85	SW	13	5 8	.....	5k	2ks	SW	SW	0	0	Cloudy	
New York, New York	29.83	757.7	30.00	762.0	73	22.8	90	SW	11	4.9	.....	0	10ks	.....	SW	0.13	3.3	Cloudy	
Norfolk, Virginia	30.06	763.5	30.12	765.0	80	26.7	74	SW	12	5.4	.....	2k	Haze	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.07	687.6	29.54	750.3	63	17.2	80	SE	14	6.3	.....	10k	0	SW	.....	0.86	21.8	Cloudy	
Olympia, Washington Ter.	29.86	758.4	29.90	759.4	56	13.3	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.82	732.0	29.85	758.2	70	21.1	90	S	1	0.4	.....	.....	10s	.....	S	0.74	18.8	Cloudy	
Oswego, New York	29.61	752.1	29.91	759.7	76	24.4	86	W	8	3.6	.....	5c	5s	W	W	0.40	10.2	Cloudy	
Pembina, Dakota	29.04	737.6	29.85	758.2	54	12.2	87	NW	14	6.3	.....	1c	0	Calm	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	78	25.6	86	SW	10	4.5	.....	8cs	Fog	SW	Calm	0.27	6.9	Cloudy	
Phœnix, Arizona	28.62	726.9	.....	.....	92	33.3	43	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	38	3.3	45	SW	30	13.4	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.02	610.1	29.79	756.7	59	15.0	4	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.17	740.9	29.93	760.2	77	25.0	82	SW	9	4.0	.....	5k	2s	SW	SW	0.11	2.8	Cloudy	
Port Huron, Michigan	29.29	744.0	29.93	760.2	67	19.4	100	N	5	2.2	.....	.....	Fog	.....	Calm	0.60	15.2	Foggy	
Portland, Maine	29.76	755.9	29.81	757.2	81	27.2	67	SW	12	5.4	.....	2k	Haze	W	.....	0	0	Fair	
Portland, Oregon	29.92	760.0	30.02	762.5	56	13.3	87	NW	1	0 4	.....	.....	10ks	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.78	629.4	30.14	765.5	65	18.3	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.01	762.2	30.02	762.5	81	27.2	87	E	10	4.5	.....	2k	0	E	.....	0.14	3.6	Clear	
Red Bluff, California	29.44	747.8	29.79	756.7	66	18.3	63	N	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Rochester, New York	29.32	744.7	29.90	759.4	75	23.9	86	W	4	1.8	.....	.....	10s	.....	W	0.64	16.3	Cloudy	
Roseburg, Oregon	29.43	747.5	30.00	762.0	60.5	10.3	96	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.72	754.9	29.80	756.9	60	15.6	77	S	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.42	747.3	29.96	761.0	78	25.6	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.05	763.3	30.07	763.8	79	26.1	78	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.04	737.6	29.83	757.7	68	20.0	90	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.53	648.4	29.86	758.4	60	15.6	29	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.33	745.0	29.89	759.2	74	23.3	86	NE	2	0.9	.....	2ck	0	Calm	.....	0	0	Clear	
San Diego, California	29.79	756.7	29.86	758.4	61	16.1	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.31	744.5	29.94	760.5	74	23.3	99	SW	7	3.1	.....	0	0	.....	.....	0.10	2.5	Clear	
Sandy Hook, New Jersey	29.97	761.2	30.00	762.0	77	25.0	86	W	6	2.7	.....	5ck	5ks	NW	NW	0.10	2.5	Cloudy	
San Francisco, California	29.78	756.4	29.85	758.2	63	17.7	90	SW	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	62	16.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.04	763.0	30.13	765.3	83	28.3	75	Calm	0	0	.....	2c	Haze	.....	.....	0	0	Fair	
Shreveport, Louisiana	29.84	757.9	30.04	763.0	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.33	618.0	30.37	771.4	59	15.0	76	N	1	0.4	.....	0	0	.....	.....	0.14	3.6	Clear	
Smithville, North Carolina	30.13	765.3	30.16	766.1	80	26.7	74	SE	9	4.0	.....	0	2ks	.....	SE	0	0	Fair	
Springfield, Massachusetts	29.76	755.9	29.88	758.9	82	27.8	71	S	5	2.2	.....	2ck	0	SW	.....	Inap.	Inap.	Fair	
Stockton, Texas	26.96	684.8	29.96	761.0	67	19.4	50	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.86	758.4	29.91	759.7	69	20.6	85	SW	12	5.4	.....	2ck	1s	SW	SW	0	0	Fair	
Toledo, Ohio	29.28	743.7	29.92	760.0	77	25.0	82	W	4	1.8	.....	0	5ks	.....	W	0	0	Fair	
Tucson, Arizona	27.31	693.7	29.86	758.4	83	28.3	35	E	.....	.....	2	0	8s	.....	Calm	0	0	Fair	
Tybee Island, Georgia	30.08	764.0	30.10	764.5	84	28.9	71	SE	10	4.5	.....	0	5ks	.....	SE	0	0	Fair	
Umatilla, Oregon	29.47	748.5	.....	.....	70	21.1	48	W	8	3.6	.....	0	Haze	.....	Calm	0	0	Hazy	
Vicksburg, Mississippi	29.82	757.4	30.07	763.8	82	27.8	79	SE	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.27	616.4	29.75	755.6	50	10.0	52	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Visalia, California	29.35	745.5	29.71	754.6	61	16.1	66	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.92	760.0	30.02	762.5	82	27.8	75	S	9	4.0	.....	2ck	Haze	Calm	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	73	22.8	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.07	763.8	30.14	765.5	79	26.1	73	S	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	51	10.6	46	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.93	760.2	29.98	761.5	69	20.6	95	SW	12	5.4	.....	5k	5s	SW	SW	Inap.	Inap.	Cloudy	
Yankton, Dakota	28.60	726.4	29.83	757.7	65	18.3	89	NW	2	0.9	.....	0	8s	.....	NW	0.83	21.1	Cloudy	
Yuma, Arizona	29.49	749.0	29.64	752.8	82	27.8	64	SE	4	1.8	.....	0	2k	.....	W	0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Fortescue, W. Wood.
York Factory, B. A	29.70	754.4	29.75	755.6	64.5	18.1	75	N	10	4.5	.....	2c	0	SE	.....	0	0	Fair	
Havana, Cuba, W. I	29.95	760.7	29.97	761.2	83	28.3	79	SE	3.6	1.6	.....	8ck	0	SE	.....	0.55	14.0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.09	764.3	30.10	764.5	81	27.2	91	Calm	0	0	.....	8c	5n	Calm	.....	0.02	0.5	.....	F. M. Everett.
Navassa, W. I	29.87	758.7	29.95	760.7	85	29.4	.....	NE	6	2.7	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	82	27.8	79	E	.....	.....	2	4c	5k	E	.....	0.080	2.03	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A	25.22	640.6	.....	.....	68.5	20.3	78	Calm	0	0	.....	8cs	4ks	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,550 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.83 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.82	752.4	55	12.8	53	11.7	96	SSW	20	8.9	.....	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.20	767.1	80	26.7	80	26.7	89	NE	2	0.9	.....	.....	1	.....	NE	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	30.00	762.0	81	27.2	71	21.7	75	SW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.74*	755.4*	77	25.0	75.9	24.4	95	Calm	.....	.....	0	.....	7k;s;sm	.....	WNW	0.01	0.3	.....	.....	Clearing.....	
Alliance, N. 46° 36', W. 7° 08'.....	30.28‡	769.1‡	.....	.....	65	18.3	94	NNW	.....	.....	2–3	.....	3	.....	N	.....	.....	Light	N	Hazy.....	
Ashuelot, Nagasaki, Japan.....	29.94	760.5	82	27.8	80	26.7	96	SW	.....	.....	6	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, N. 8° 11', W. 34° 24'.....	30.12	765.0	78	25.6	76	24.4	91	SW	.....	.....	3	.....	9	.....	SW	.....	.....	Long	SW	Cloudy.....	
Canonicus, New Orleans, La.....	30.10	764.5	57	13.9	82	27.8	83	NE	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.....	29.99‡	761.7‡	.....	.....	76	24.4	86	SW	6	2.7	.....	.....	8	.....	WSW	0.16	4.1	.....	.....	Light fog.....	
Constellation, N. 39° 54', W. 73° 56'.....	30.03‡	762.7‡	.....	.....	75	23.9	78	SW	.....	.....	2	.....	2	.....	S	.....	.....	Smooth	.....	Clear.....	
Constitution, Havre, France	30.10‡	764.5‡	.....	.....	65	18.3	84	W	.....	.....	3	.....	7	.....	W	.....	.....	.....	.....	Pleasant.....	
Despatch, Prince's Islands, Sea of Marmora	29.85‡	758.2‡	.....	.....	79	26.1	57	NE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	.....	Clear.....	
Enterprise, S. 5° 15' 19", W. 60° 32' 27"	29.98‡	761.5‡	.....	.....	71	21.7	100	SSW	.....	.....	2	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.	
Franklin, Norfolk, Va.....	30.22	767.6	78	25.6	79	26.1	70	SW	7.2	3.2	.....	.....	2	.....	S&W	0	0	.....	.....	Misty.....	
Gettysburg Alexandria, Egypt.....	29.78‡	756.4‡	.....	.....	79	26.1	??	NNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Guard, Rio de Janeiro, Brazil....	30.22	767.6	73	22.8	72	22.2	80	NE	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Misty.....	
Hartford, Rio de Janeiro, Brazil ...	30.17	766.3	.....	.....	74	23.3	81	NW	2 4	1.1	.....	.....	8	.....	.....	0	0	.....	.....	Fair.....	
Marion, Villefranche, France	30.05	763.3	76	24.4	70	21.1	100	E	.....	.....	2	.....	8	.....	E	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa.....	29.50	749.3	77	25.0	75	23.9	86	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.73‡	755.1‡	.....	.....	78	25.6	95	NW	.....	.....	1	.....	10	.....	NW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.....	30.36†	771.1†	.....	.....	81	27.2	83	Calm	0	0	.....	.....	5	.....	ESE	0	0	.....	.....	Fair.....	
Onward, Callao, Peru.....	30.10†	764.5†	.....	.....	61	16.1	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Ta-koo, China.....	29.69	754 1	84	28.9	79	26.1	91	WNW	.....	.....	3	.....	2	.....	N;W	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.94	760.5	59	15.0	54	12.2	100	SSW	19	8.5	.....	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Plymouth. New York, N. Y.....	29.99‡	761.7‡	.....	.....	75	23.9	90	SSW	.....	.....	1–2	.....	10	.....	S;W	.....	.....	.....	.....	Cloudy.....	
Ranger. Hong-Kong, China	29.98*	761.5*	.....	.....	86	30.0	79	Calm	.....	.....	0	.....	1	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas.....	29.95	760.7	80	26.7	79	26.1	95	NE	.....	.....	1	.....	6	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md	30.02‡	762.5‡	.....	.....	82	27.8	71	SW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Hazy.....	
St. Louis, League Island, Pa	29.98	761.5	80	26.7	79	26.1	86	SW	11	4.9	.....	.....	10	.....	SW	0.5	13.	.....	.....	Cloudy.....	
Supply, Havre, France.....	30.20	767.1	66	18.9	66	18.9	84	NW	.....	.....	2	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass.....	29.92‡	760.0‡	.....	.....	76	24.4	100	WSW	.....	.....	3	.....	5	.....	S	.....	.....	.....	.....	Fair	
Trenton, Leghorn, Italy	30.00‡	762.0‡	.....	.....	75	23.9	81	SSW	.....	.....	2–3	.....	8	.....	S	0	0	.....	.....	Cloudy.....	
Tuscarora, N. 17° 51', W. 101° 58'.....	29.68	753.9	79	26.1	78	25.6	91	NNW	.....	.....	0–1	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Vandalia, N. 38° 41' E. 26° 11'.....	29.88‡	758.9‡	.....	.....	77	25.0	73	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	WNW	Hazy.....	
Wabash, Boston, Mass.....	29.90‡	759.4‡	.....	.....	79	26.1	74	WSW	8	3.6	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy.....	
Wyoming, N. 62° 35', W. 31° 20'.....	30.00	762.0	65	18.3	53	11.7	86	SW	.....	.....	4	.....	10	.....	SW	.....	.....	Mod'ate	SW	D. clouds.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10	From —	From —					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 28° 29′, E. 125° 57′		29.92*	760.0*	84	28.9	100	SSW			5		8		SSW	1 hour	Mod'ate	SSW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		30.01*	762.2*				WNW			2		2		WNW				Fair	Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, New York, N. Y.		30.00*	762.0*	76	24.4		NNW			2				W	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 48° 21′, W. 40° 52′		30.19†	766.8†	60	15.6	94	SSW			2		8		SW	2 hours	Light	SW	Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, Yokohoma, Japan		29.67*	753.6*	80	26.7	100	Var.			4		k		Var.	0			D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 49° 10′, W. 29° 48′		30.43	772.9	65.0	18.3	89	WSW			1		8		WSW			WNW	Foggy	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.26*	768.6*	63	17.2	94	S			4		9		SW	0			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		29.99	761.7	82	27.8	91	WSW			3		7		WSW	Mod'ate			Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.93†	760.2†	62	16.7	100	SW			4		10		SW	0			Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°, W. 66°		29.59*	751.6*	38.5	3.6	90	ESE			1		10s			0.02 in. or 0.5 mm.			Cloudy	O. T. Sherman.

NOTE.—The originals for the schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 10, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			29.97	761.2	70.2	21.2	84	NE			2		1			0	0	Very fair	Dr. Ollive.
Nemours			30.01	762.2	75.4	24.1	83	N			1		9			0	0	Covered	Michel.
Algiers			29.95	760.6	78.8	26.0	82	NE			2		9			0	0	Covered	Touriliere.
La Calle			29.98	761.5	86.4	30.2	64	E			3		2			0	0	Fair	Foufrede.
Tunis			29.98	761.6	97.9	36.6		E			6		0			0	0	Clear	Jacques.
Sfax			30.10	764.5	96.8	36.0		NNE			3		1			0	0	Very fair	Gau.
Saida			30.06	763.4	79.3	26.3	43	N			1		0			0.276	7.0	Clear	Herbin.
Tebessa			30.11	764.7				S			6		1			0	0	Very fair	Watrin.
Geriville			30.05	763.2	88.9	31.6		SE			3		7			0	0	Very cloudy	Brugniaux.
Laghouat			30.04	763.0	97.5	36.4	12	E			4		0			0	0	Clear	Bertrand.
Biskra			30.06	763.5	103.3	39.6		E			5		1			0	0	Very fair	Chanvaux.

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

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow, I. R. Observatory	29.41	746.9	29.93	760.2	78.6	25.9	67	SW			2		6			0.008	0.2	Raining	Prof. Ivan Stoza
Eperies	29.13	740.0	29.87	758.8	71.2	21.8	40	W			2		6			0	0		Dr. Wierzbiski.
Gratz	29.02	737.2	29.86	758.9	66.2	19.0	72	S			2		7cks			0.039	1.00		Julius Mikolik.
Hermannstadt	28.71	729.2	29.91	759.8	71.6	22.0	76	SE			3		4			0.366	9.30		Andreas Rospini.
Kremsmünster	28.56	725.3	29.92	759.9	74.1	23.4	41	WNW			4		0			0	0		Prof. Reissenberg
Lemberg	28.57	725.7	29.86	758.3	72.3	22.4	55	WSW			2		7			0.094	2.4		Prof. C. Wagner
Pola	28.73	729.8	29.69	754.1	65.5	18.6	63	NW			2		5			0	0		Dr. T. Stanecki.
Szathmar	29.35	758.3	29.97	761.1	80.8	27.1	68	SE			3		8cs			0	0		I.R.Hydrographic Office
Szegedin	29.52	749.9	29.77	756.2	74.7	23.7	34	NE			4		3			0	0		Johann Tamas, S. J.
Trieste																			Karl Stancel.
Vienna	29.89	759.1	29.99	761.7	77.4	25.2	61	NW			1		1			0	0	Almost clear	P. Busin.
	29.22	742.3	29.91	759.7	76.1	24.5	43	W			1		3			0.008	0.2		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.48	723.4	29.96	760.9	64.0	17.8	62	WSW			2		9			0.004	0.1	Light rain	Prof. M. Passau.
Brussels	29.71	754.6	29.90	759.5	65.1	18.4	67	W			4		9		W	0.008	0.20		Royal Observatory
Furnes	29.94	760.4	29.96	761.0	62.6	17.0	78	WNW			4		10			0.031	0.8		M. E. de Cae.
Maeseyck	29.79	756.7	29.92	759.9	62.6	17.0	85	W			2		10			0.177	4.5		M. Pierrot.

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Aberdeen	29.60	751.8	29.70	754.4	62.1	16.7	.....	W	9	4.0	.....	.....	9	.....	.....	0.060	1.52	Showery	W. Boswell.
Ardrossan	29.78	756.4	29.80	756.9	60	15.6	.....	W	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	George Carrick.
Armagh, Observatory	.....	.....	29.95	760.7	60.4	15.8	.....	WNW	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.92	760.0	58.3	14.6	.....	W	29	13.0	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.04	763.0	60.7	15.9	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.47	748.5	29.86	758.4	60.0	15.6	.....	W	.....	.....	3	.....	10	.....	.....	0	0	Overcast....	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.97	761.2	83	28.3	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.89	759.2	66.0	18.9	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	H. Todd. [H.C.
Cardington	.....	.....	29.93	760.2	65.0	18.3	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	29.79	756.7	29.92	760.0	64.2	17.9	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Lt. W. G. Morris, R. E.
Dartmoor	28.60	726.4	30.06	763.5	56.0	13.3	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	Alexander Watt.
Donaghadee	29.87	758.7	29.90	759.4	63	17.2	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.90	759.4	29.92	760.0	65	18.3	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	Gloomy.....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.98	761.5	58.1	14.5	.....	WSW	2.8	1.3	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Falmouth, Observatory	29.86	758.4	30.08	764.0	62.7	17.1	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.65	702.3	29.94	760.5	74.5	23.6	.....	E	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	P. t. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	79	26.1	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.00	762.0	60	15.6	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.94	760.5	29.99	761.7	74.9	23.8	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.60	751.8	29.80	756.9	59.9	15.5	.....	W	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.87	758.7	29.87	758.7	64	17.8	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.76	755.9	29.93	760.2	64.1	17.8	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	The Staff, for G. B. Airy.
Guernsey	29.82	757.4	30.04	763.0	62.5	16.9	.....	WNW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	Br. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.07	763.8	67	19.4	.....	NW	.....	.....	2	.....	2c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.92	760.0	29.97	761.2	60	15.6	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	John Tilston.
Jersey	29.80	756.9	30.09	764.3	63.4	17.4	.....	WNW	.....	.....	3	.....	8	.....	.....	Blank	Blank	D. clouds....	J. Fisher.
Kew, Observatory	.....	.....	29.93	760.2	64.7	18.2	.....	W	12	5.4	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.94	760.5	29.97	761.2	60	15.6	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast....	George Mitchell.
Leicester, Museum	.....	.....	29.91	759.7	59.5	15.3	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	83	28.2	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt A. H. C.
Nairn	29.60	751.8	29.69	754.1	59	15.0	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.13	762.7	82.5	28.1	.....	NE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.75	755.6	29.93	760.2	64.5	18.1	.....	WSW	.....	.....	3	.....	10k	.....	W	0	0	Overcast....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.40	746.7	29.92	760.0	59.5	15.3	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.94	760.5	65	18.3	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	H.E. Bellamy.
Plymouth	29.96	761 0	30.04	763.0	67.0	19.4	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Roche's Point	30.04	763.0	30.05	764.0	60	15.6	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	29.87	758.7	30.03	762.7	59	15.0	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.63	752.6	56.4	13.6	.....	SW	22	9.8	.....	.....	10	.....	.....	.....	.....	Showery.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.91	759.7	89.4	31.9	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.63	752.6	29.91	759.7	61.0	16.1	.....	SW	.....	.....	2	.....	8	.....	.....	0.01	0.3	Overcast....	W. F. Cooper.
Silloth Rectory	29.73	755.1	29.76	755.9	66.7	19.3	70	SW	.....	.....	6	.....	3	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.50	749.3	29.90	759.4	55.9	13.3	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast....	Rev. S. J. Perry.
Stornoway, Lewis C. (Hebr.)	29.62	752.3	29.66	753.4	55	12.8	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.75	755.6	29.96	761.0	62.3	16.8	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.64	752.8	58	14.4	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	30.09	764.3	66	18.9	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds ...	W. Newcombe.
Valencia, Observatory	.....	.....	30.14	765.5	59.3	15.2	.....	NW	15	6.7	.....	.....	10	.....	.....	.....	.....	D. clouds. ..	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.88	758.9	55.0	12.8	87	SW	.....	.....	3	.....	7km	.....	.....	0.19	4.8	Hazy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.84	757.9	30.03	762 8	72.0	22.2	91	E	8.5	3.8	.....	.....	10	.....	ENE	1.29	32 8	Drizzling....	C. Meldrum.
Melbourne, Observatory	29.89	759.2	29.98	761.5	50.4	10.2	88	SW	4	1.8	.....	.....	9	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclaus.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 40° 55′ W. 64° 0′	.....	.....	D. clouds....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	Capt. W. R. Cato.
S. S. Hibernia	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	
Barque Sorata	.....	.....	.....	
Schooner Traveller, N. 61° 12′, W. 48° 10′	0	10	Overcast....	Capt. Alex Simpson
Barque Virginia, N. 45° 50′, W. 47° 30′	6	10	Foggy	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instru'tal error and temperature. Inches.	BAROMETER. Corrected for instru'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7			68.9	20.5	91	NE			1		10s;n			0.3	8.		Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.60	751.7	29.64	752.9	59.2	15.1	92	W			2		10					Raining	
Fanöe	29.62	752.4	29.64	752.9	63.3	17.4	79	W			4		7						
Godthaab, (Greenland)	29.58	751.3	29.62	752.4	46.6	8.1		Calm			0		7						
Stykkisholm, (Iceland)	29.54	750.2	29.58	751.3	50.0	10.0	82	W			4		8						
Thorshavn, (Faröe)	29.32	744.8	29.36	745.7	53.6	12.0	88	W			6		5						
Vestervig	29.43	747.6	29.69	751.9	59.7	15.4	91	WNW			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.54	750.3	30.09	764.3	68.0	20	47	N			4		8		W	0.028	0.7	Very cloudy	Collignon, Director.
Amiens, Normal School	29.82	757.3	29.92	760.0	66.6	19.2	64	SW			1		5		NW	0.165	4.2	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.95	760.7	30.03	762.7	82.0	27.8	44	N			1				W	0	0	Heavy clouds	Mr. Giraud, Director.
Bar-sur-Seine	29.48	748.9	30.04	762.9	64.2	17.9	76	W			2		10		SW	0.059	1.5	Raining	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.72	754.8	29.99	761.8	71.4	21.9	50	W			3		8		W	0.12	3.	Very cloudy	Normal School.
Besançon	29.25	743.0	30.13	765.2	66.4	19.1	76	N			3		10		SW	0	0	Covered	Normal School.
Bourg-en-Bresse	29.22	742.2	30.15	765.9	74.3	23.5	61	W			2		5n		NW	0	0	Cloudy	Normal School.
Bourges, Normal School	29.50	749.2	30.10	764.4	64.8	18.2	92	SW			4		n		SW	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.83	757.7	30.08	763.9	67.6	19.8	63	NW			2		10		NW	0.010	0.25		The Staff.
Carcassonne, Normal School	29.69	754.2	30.09	764.3	80.4	26.9	49	W			2		5		W	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.41	746.9	29.95	760.7	70.9	21.6	82	N			3		8		SE	0.094	2.4		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.66	753.3	29.97	761.2	70.3	21.3	70	SW			3		5ck		SW	0.008	0.2	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.72	729.4	30.02	762.6	70.9	21.6	50	W			2		10		W	0	0	Covered	Alluard, Director.
Commercy, Normal School	29.15	740.5	30.02	762.5	61.9	16.6	85	W			4		10		E	0.008	0.2	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.91	734.4	30.06	763.4	82.8	28.2	33	W			4		5		SW	0	0	½ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.87	758.6	30.08	763.9	73.4	23.0	56	WNW			1		2		WNW	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.74	755.5	30.05	763.2	71.1	21.7	40	W			4		2		NW	0.049	1.25	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.17	740.8	30.06	763.4	69.3	20.7	67	NW			3		10			0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	30.02	762.4	30.11	764.9	67.3	19.6	70	NW			2		8		NW	0	0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.37	746.0	30.04	762.9	71.6	22	94	W			2		10			0	0	Covered	M. Galzin, Director
Mirecourt	28.97	735.7	29.99	761.8	62.8	17.1	80	W			2		10		SSE	0.12	3.	Covered	Normal School
Nismes, Normal School	29.80	756.9	29.99	761.7	91.0	32.8	21	NW	2	0.9			0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.61	752.0	29.98	761.5	74.3	23.5	55	NW			2		5		NW	0.059	1.5	Cloudy	Bernard, Director.
Paris, Observatory	29.70	755.8	29.99	761.8	68.2	20.1	52	W			2		5		W	0.112	2.85	Cloudy	National Observatory.
Privas	29.06	738.0	30.08	764.0	77.0	25	54	N			1		2		N	0	0	Slightly cov.	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.08	764.0	30.11	764.8	69.6	20.9	65	W			1		10		W	0.12	3.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.02	760.0	30.00	762.1	68.7	20.4	53	WSW			2		8		W	0.197	5.0	Very cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.09	738.9	30.16	766.0	64.4	18	80	SW			2		10			0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.28	743.8	29.97	761.2	76.1	24.5	75	WNW			1		10		NW	0	0	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.84	757.8	82.4	28										0.94	24.		L'Abbé Marchès.
Lyons			30.10	764.4	75.2	24.0	49						7			0	0		L. Jays.
Marseilles, Observatory			30.00	761.9	76.5	24.7	54	W			0–1		10			0	0	Very cloudy	The Staff.
Mont-Louis	25.02	635.5	30.34	770.5	61.5	16.4	58	ESE	5.6	2.50			3		SE	0	0		M. Cave.
Nice			30.04	762.9	76.3	24.6	77	S			1		3			0.016	0.4		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.71	754.7	29.99	761.7	70.5	21.4	49	NW			3		6		WSW	0.126	3.2		Marié Davy, Director
Perpignan			30.06	763.4	82.0	27.8	47	N	3.7	1.67			7		W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.67	575.7			44.8	7.1		NW			2		10			0.413	10.5	Stormy	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.83	757.6	29.99	761.8	70.9	21.6	53	W			2		5		W; WNW	0	0		E. Renou.
Toulouse, Observatory	29.45	747.9	30.17	766.3	71.6	22.0	50	NNW			2		8			0	0		The Staff.
Tours	29.84	757.8	30.03	762.8	70.5	21.4	63	W			1		10		W	0.059	1.5		C. Marquet.
Versailles, (near Paris)			30.00	762.1	70.9	21.6	44	NW			3		9			0.080	2.02	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.67	753.5	29.99	754.1	78.8	26.0	97	NE	6.5	2.9			10m			0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,497 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.13	740.0	29.98	761.4	64.9	18.3	84	W			3		9	W		0.04	1.	Raining	Prof. Dr. Hoh.
Berlin	29.63	752.7	29.80	756.9	66.2	19.0	61	W			4		10			0	0		Prof. Arndt.
Breslau	29.37	745.9	29.80	756.3	71.4	21.9	41	WSW			2		10			0	0		Royal University Obs'y
Carlsruhe	29.51	749 6	29.93	760.3	61.2	16.2	94	SW			4		10			0.559	14.2	Raining	Albert Senz.
Cassel	29.27	743.4	29.87	758.8	63.7	17.6	80	SSW			2		9	SW		0.131	3.34		Dr. H. Möhl.
Crefeld	29.69	754.1	29.85	758.2	65.8	18.8	63	NW			4		9			0.04	1.		Director Lose.
Emden	29.81	757.1	29.85	758.1	60.3	15.7	76	WNW			5		10			0.354	9.0		Prof. Prestel.
Frankfort on the Main	29.62	752.4	29.98	761.5	65.3	18.5		SW			2		8			0.118	3.0		Physical Society.
Friedrichshafen	28.60	726.3	29.98	761.5	70.9	21.6	57	WSW			5		7	W		0.291	7.4	Raining	M. Wilhelm.
Hamburg	29.65	753.2	29.72	755.0	58.6	14.8	93	NW			2		7k			0.189	4.8	Rain-squalls	Captain F. Hegemann.
Kiel	29.67	753.5	29.68	753.9	64.6	18.1	69	WSW			2		8			0.204	5.19		Prof. G. Karsten.
Königsberg, (Prussia)	29.63	752.6	29.71	754.6	63.5	17.5	56	W			4		4			0.118	3.0		Prof. E Luther.
Köslin			29.72	755.0	61.3	16.3		NW			2		2			0.028	0.7		H. Müller.
Leipsic, Observatory	29.47	748.4	29.88	758.9	62.8	17.1	74	SW			2		10	WSW		0	0		Prof. Bruhns.
Memel, Naval School	29.63	752.5	29.67	753.7	64.2	17.9	68	W			5		4c	WNW					Reinbrecht and Skalweit.
Neufahrwasser	29.72	755.0	29.74	755.4	67.3	19.6	60	W			3		7			0.035	0.9		A. Lothes.
Posen	29.60	751.7	29.87	758.8	70.7	21.5	51	W			5		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.49	749.1	30.03	762.8	64.9	18.3	87	SW			3		10	W				Raining	Astronomical Observatory.
Stuttgart	29.02	737.2	29.94	760.6	64.4	18.0	75	W			1		10			0.083	2.1	Raining	Prof. Schoder.
Treves, (Trier)	29.30	744.3	29.82	757.5	68.0	20.0	69	SW			6		8			0.019	0:47		Prof. Flesch.
Weissenburg, (Bavaria)	28.50	723.9	29.96	760.9	60.1	15.6	85	W	2	1			10		W			Light rain	Dr. Von Bebber.
Wustrow, Naval School	29.70	754.3	29.74	755.3	59.9	15.5	85	SW			4		10			0.043	1.1		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.56	750.8	29.93	760.1	92.5	33.6		NE			1.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.60	751.8	29.65	753.0	88.4	31.3	68	WSW	377	16.57			6		WSW	0	0	D. clouds	
Deesa	29.17	740.9	29.63	752.6	93.5	34.2	55	WSW					3	E		0	0	Misty	
Bombay	29.72	755.0	29.76	755.9	81.1	27.3	87	SW	18	8.8			10		WNW	1.86	47.2	Overcast	
Poona	27.73	704.3	29.72	755.0	77.5	25.3	76	WNW					10		WNW	0	0	Overcast	
Lahore	28.83	732.2	29.54	750.3	93.1	33.9	50	E	3.3	1.5			1			0	0	Blue sky	
Belgaum	27.28	693.0	29.83	757.6	72.0	22.2	90	W	8	3.6			8		W	0.07	1.8	D. clouds	
Bangalore																			
Roorkee	28.49	723.7	29.37	745.9	86.6	30.3	70	SE	3.3	1.5			6			0.48	12.2		
Agra	29.03	737.4	29.58	751.4	90.7	32.6	67	Calm	4	1.8						0	0		
Trichinopoly																			
Nagpur	28.60	726.5	29.62	752.4	88.6	31.4	65	SW	4.8	2.2			9		NE	2.30	58.4	Gloomy	
Madras																			
Lucknow	29.23	742.5	29.60	751.9	83.3	28.5	96	Calm	1.8	0.8			8			2.21	56.1	D. clouds	
Allahabad	29.29	743.9	29.59	751.7	82.0	27.8	85	Calm	2.6	1.2			10	NW		1.88	47.8	Thunder	
Patna	29.42	747.2	29.60	751.8	81.7	27.6	87	E	0.9	0.4			10	E	E	0	0	Overcast	
Hazaribagh	27.65	702.2	29.42	752.2	86.8	30.2	67	SW	7.2	3.2			10		SW			Drizzling	
Cuttack	29.58	751.4	29.66	753.5	90.4	32.4	60	SSW	6.4	2.9			8			0	0	D. clouds	
Calcutta (Alipore)	29.65	753.1	29.67	753.6	86.2	30.1	82	SW	7.0	3.1			7	S	S	0	0	D. clouds	
Goalpara	29.25	743.0	29.64	752.7	82.4	28.0	90	Calm	1.4	0.6			2			0.29	7.4	D. clouds	
Chittagong																			
Sibsagar	29.30	744.1	29.63	752.5	84.2	29.0	82	WSW	3.9	1.7			10	W	W	0.13	3.3	D. clouds	
Rangoon																			
Jubbulpore	28.31	719.0	29.66	753.4	82	27.8	72	SSW	4.7	2.1			10	E		0.55	14.0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Weather.	OBSERVER.
								Direction.	Velocity.		Force.	Amount.		Direction.					
												Up'er	Low'r	Upper.	Lower.				
	nches.	illimeters	nches.	Millimeters.	ahrenheit.	entigrade.	Per cent.	From—	Miles per hour.	Meters per second.	—10	0—10.	0 - 10	From—	From—	nches.	illimeters.		
Udine	29.58	751.3	29.98	761.4	76.5	24.7	72	S	0.7	0.3	.....	.....	9	.....	.....	1.205	30.6	.....	Prof. Giovanni Clodig.
Padua	29.86	758.5	29.97	761.2	79.0	26.1	62	ESE	6.3	2.8	.....	.....	4	WSW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.78	756.4	29.97	761.1	78.8	26.0	58	S	0	0	.....	.....	7	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.67	728.2	29.94	760.4	79.5	26.4	54	SW	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.46	748.3	29.90	760.9	82.6	28.2	.....	SSE	.....	.....	1	.....	4	WSW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.06	738.0	29.93	760.1	79.9	26.6	54	E	4.9	2.2	.....	.....	5	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.09	713.4	29.93	760.1	77.7	25.4	55	ENE	.....	.....	4	.....	2	W	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.79	756.7	30.01	762.2	77.0	25.0	70	WSW	.....	.....	2	.....	8	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.85	758.3	30.02	762.5	74.7	23.7	73	SE	10.5	4.7	.....	.....	6	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.66	753.4	29.97	761.2	82.2	27.9	42	SW	.....	.....	6	.....	7	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.76	755.9	30.01	762.2	84.2	29.0	37	NW	.....	.....	4	.....	4	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.03	760.1	30.01	762.2	77.4	25.2	71	S	8.7	3.9	.....	.....	5	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.89	759.3	29.94	760.5	80.4	26.9	62	NE	.....	.....	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.48	723.3	29.98	761.4	81.7	27.6	29	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.93	760.1	30.03	762.8	79.5	26.4	61	SSE	.....	.....	4	.....	3	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.87	758.7	30.04	763.0	85.3	29.6	34	W	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.87	758.8	30.07	763.7	85.3	29.6	28	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.76	755.8	30.00	762.0	85.6	29.8	33	ENE	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.76	755.9	29.95	760.6	79.0	26.1	72	S	.....	.....	4	.....	3	S	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.16	740.7	30.00	762.1	91.8	33.2	52	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.83	757.6	30.08	763.9	81.1	27.3	47	E	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.90	759.4	29.97	761.3	86.5	30.3	36	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.4	30.10	764.5	83.3	28.5	36	S	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.68	751.3	29.77	756.1	79.7	26.5	84	SW	14.4	6.5	.....	.....	10ck;ks	.....	SW	.....	.....	Cloudy	.....	
Tokei (Yeddo)	29.57	751.1	29.63	752.6	77.4	25.2	80	W	3.0	1.3	.....	.....	10n;s	.....	.....	0.025	0.63	Light rain	The Observatory.	
Tokei (Yeddo) University	29.52	749.8	29.61	752.1	77.2	25.1	93	Calm	0	0	.....	6cs	3ks	.....	W	0.02	0.5	Cloudy	Prof. P. V. Veeder.	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	25.09	637.1	30.03	762 8	60.8	16.0	87	Calm	0	0	.....	0	10	.....	.....	0.60	15.2	Covered	Prof. L. Perez.
Guanajuato	23.70	601.9	29.84	757.9	64.4	18.0	86	Calm	0	0	.....	0	10	.....	.....	1.13	28.6	Covered	Prof. V. Fernandez
Leon	.....	.....	.....	.....	63.3	17.4	95	NW	1.6	0.8	.....	0	10n	.....	NE	0.44	11.2	Raining	Prof. M. Leal.
Mexico	23.12	587.3	30.10	764.6	57.2	14.0	89	Calm	0	0	.....	0	10n;k	.....	N	1.06	26.8	Covered	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.3	17.4	87	Calm	0	0	.....	0	10n	.....	.....	.....	.....	.....	I. Orozco, M. D.
Puebla	23.33	593.2	29.96	761.0	56.3	13.3	89	E	1.1	0.5	.....	3c	2s	.....	.....	1.74	44.1	Raining	M. V. de Leon, M. E.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.90	22.9	½ cloudy	Prof. B. Gonzalez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
San Luis Potosí	29.91	759.8	29.93	760.1	79.7	26.5	87	NE	1.8	0.8	.....	10ck	0	.....	.....	0	0	Cloudy	Prof. F. R. Bayly.
Vera-Cruz	24.23	615 0	30.14	765.6	61.0	16.1	64	E	0.6	0.4	.....	0	10n	.....	E	0.02	0.6	Covered	G. Barroeta, M. D.
Zacatecas	29.98	761.4	30.00	762.1	80.6	27.0	80	E	2.2	1.0	.....	0	9sk	.....	S	0.67	17.0	Very cloudy	Prof. J. Rossell.
Puebla, (Catholic Institute)	23.29	591.7	30.03	762.7	54.5	12.5	90	W	0.4	0.2	.....	1	1	.....	E	0.30	7.5	Foggy	J. A. Bonilla, M. E.
Morelia	24.12	612.5	.....	.....	64.4	18.0	66	NE	0.9	0.4	.....	0	5k	.....	.....	0.94	23.8	Clear	Prof. P. Spina. (M.M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.0	½ cloudy	M. Tena, F. L. Paramo,
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
San Juan E. Michapam	28.35	720.1	29.98	761.5	77.0	25.3	84	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	R. Banda, C. E
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,881 m., or 6,105.4 ft.; Cordoba, 818 m., or 2,710.3 ft.; Cuernavaca, 1,510 m., or 4,933.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,819 ft.; Mexico, 2,233.5 m., or 7,488.4 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft; Toluca, 2,635 m., or 8,641.8 ft.; San Luis Potosí, 1,833 m., or 5,310.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,949 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 513.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Ilushing	29.92	760.0	29.92	760.0	66.2	19.0	.....	W	.....	.....	4	.....	.....	.....	.....	0.102	2.6	.....	
Groningen	29.73	755.2	29.79	756.6	62.6	17.0	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.327	8.3	.....	
Helder	29.82	757.5	29.82	757.5	62.4	16.9	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.85	758.1	29.85	758.1	65.1	18.4	70	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.84	757.8	29.88	759.0	64.9	18.3	70	W	.....	.....	4	.....	8	.....	.....	0.087	2.2	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.55	750.5	29.60	751.9	62.2	16.8	59	NW	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.59	751.6	29.63	752.6	59.0	15.0	58	ESE	7	3	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.38	746.3	29.52	749.8	70.9	21.6	41	SSW	9	4	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.71	754.7	29.76	755.8	59.7	15.4	33	SW	9	4	.....	.....	5	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.25	768.3	30.44	773.1	72.9	22.7	86	ENE	15.4	6.9	.....	.....	1	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.05	737.9	30.02	762.6	65.1	29.5	24	NNE	12.5	5.6	.....	.....	7	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.00	761.9	30.08	764.1	73.8	23.2	62	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.4	30.04	763.1	65.3	29.6	25	NE	7.4	3.3	.....	.....	3	NW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.34	770.7	30.41	772.5	74.1	23.4	77	NE	15.0	6.7	.....	.....	5	WNW	.....	0	0	.....	

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

Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	30.14	765.5	72.5	22.5	.....	NW	.....	.....	1	.....	2	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58', E. 32° 37'	.....	.....	30.16	766.0	69.8	21.0	.....	E	.....	.....	4	.....	0	.....	.....	3	E	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.95	760.7	79.9	26.6	.....	SE	.....	.....	2	.....	9	.....	SE	2	SE	Overcast	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	.....	.....	29.89	759.2	.....	.....	.....	NW	.....	.....	1	.....	2	.....	.....	1	.....	.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.41	747.0	29.82	757.3	65.7	18.7	57	SW	13	6	.....	.....	6ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.25	743.0	29.66	753.4	58.3	14.6	80	SSW	2	1	.....	.....	8	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	29.16	740.7	29.40	746.8	49.1	9.5	91	WSW	7	3	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.30	744.2	29.32	744.6	50.4	10.2	79	W	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.10	739.2	29.72	754.8	64.4	18.0	66	W	18	8	.....	.....	7k;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.86	758.4	29.93	760.2	72.3	22.4	69	NNW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.85	758.2	29.87	758.7	74.1	23.4	78	SW	7	3	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.00	736.6	29.53	750.1	61.3	16.3	78	S	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.40	746.7	29.60	751.7	77.4	25.2	50	SW	13	6	.....	.....	8n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.46	748.3	29.48	748.8	61.7	16.5	66	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.46	722.8	29.78	756.4	88.2	31.2	31	E	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.84	758.0	29.76	755.9	85.6	29.8	36	SSW	20	9	.....	.....	3c	.....	.....	.....	.....	Light clouds	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.25	743.0	29.51	749.5	71.8	22.1	48	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.55	725.1	29.45	747.9	70.2	21.2	62	W	20	9	.....	.....	4ck;s	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.13	714.4	29.71	754.7	86.5	30.3	56	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Michelson.
Barnaul	28.88	733.6	29.36	745.7	83.8	28.8	36	NW	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.14	740.2	29.42	747.3	61.0	16.1	74	E	4	2	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.48	748.8	29.62	752.4	86.5	30.3	34	SW	2	1	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.92	760.0	30.02	762.5	76.1	24.5	64	E	1.7	0.78	.....	4	...	SW	.....	0.006	0.15	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.10	764.4	30.15	765.8	75.0	23.9	69	N	2.8	1.24	.....	1	7	SE	.....	0.055	1.4	Almost cov..	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.20	690.8	.....	.....	67.6	19.8	57	NE	8.1	3.62	.....	.....	9	.....	.....	0	0	Almost cov..	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.6	29.98	761.5	81.5	27.5	41	NE	5.2	2.33	.....	0	9	.....	.....	0	0	Almost cov..	The Staff.
Murcia, Met. Obs'y	29.82	757.3	29.96	760.9	91.4	33.0	42	WNW	2.4	1.08	.....	2	6	WNW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.24	742.8	30.11	764.9	72.5	22.5	58	NE	11.2	5.00	.....	8	8	NE	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.5	30.00	762.2	82.2	27.9	74	ESE	8.7	3.9	.....	2c;cs	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	760.0	30.02	762.4	87.3	30.7	34	E	10.1	4.5	.....	0	4	.....	NE	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.89	759.3	29.98	761.6	82.0	27.8	88	SE	0	0	.....	5cs	3k	SE	SE	0.236	6.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 1-10.	Clouds. Amount. Low'r 1-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.55	750.6	29.59	751.6	47.1	8 4	.....	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Umea	29.52	749.7	29.57	751.0	46.0	7.8	100	NE	.....	.....	6	.....	10	.....	.....	0.039	1.0	.....	
Hernosand	29.54	750.3	29.59	751.6	50.0	10.0	64	NE	.....	.....	6	.....	10	.....	.....	0.043	1.1	.....	
Stockholm	29.39	746 5	29.57	751.0	53.8	12.1	80	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	
Wisby	29.52	749.9	29.58	751.4	63.0	17.2	68	W	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.46	748.3	29.54	750.2	53.6	12.0	86	WSW	6.5	2.9	.....	.....	10	.....	N	0.186	3.43	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.65	727.6	30.02	762.4	73.4	23.0	48	SSW	.....	.....	3	.....	7	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.43	722.0	30.01	762.2	70.5	21.4	60	W	.....	.....	2	.....	8	.....	.....	0.118	3.0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.1 mm.; Thermometer, +0.5 cent.; Relative Humidity, —5 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.97	761.1	82.0	27.8	48	NNE	8	3.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.16	766.1	82.8	28.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.64	752.8	29.76	755 8	91.9	33.3	59	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.80	756.9	29.87	758.7	71	21.7	56	NW	2	0.9	.....	7k	0	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.60	751.8	29.89	759.2	79	26.1	.....	SW	3	1.3	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.84	757.9	29.90	759.4	69	20.6	72	SW	4	1.8	.....	8c	0	SW	.....	0.84	21.3	Fair	G. A. Blair.
Charlottetown, P. E. Island.	29.85	758.2	29.89	759.2	73	22.8	65	NW	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.67	753.6	29.86	758.4	72.0	22.2	74	NE	.....	.....	1	0	8s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.72	754.9	29.88	758.9	68	20.0	74	W	.....	.....	2	.....	.....	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.64	752.8	29.68	753.9	55.2	12.9	93	Calm	.....	.....	.....	10cs	0	.....	.....	0.18	4.6	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.89	759.2	29.91	759.7	62	16.7	75	Calm	0	0	.....	2k	2s	NW	Calm	Inap.	Inap.	Cloudy	J. McWilliams.
Fredericton, N. B	29.88	758.9	29.94	760.5	72.2	22.3	62	NW	2	0.9	.....	10c	0	W	.....	0.10	2.5	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.28	743.7	30.09	764.3	56	13.3	82	E	3	1.3	.....	0	2n	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.86	733.0	29.32	760.0	71	21.7	85	SW	.....	.....	1	1ks	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.79	756.7	29.92	760.0	70	21.1	70	W	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.58	751.3	29.94	760.5	73.6	23.1	85	SW	.....	.....	4	10ck	0	.....	.....	0.01	0.3	Thunderstorm.	Geo. Dickson, M. A.
Heart's Content, N. F	29.75	755.6	29.77	756.1	58	14.4	88	SW	.....	.....	1	10	2ks	.....	.....	0.11	2.8	Cloudy	E. Weedon.
*Kingston, Ontario	29.67	751.1	29.88	758.9	74	23.3	68	S	11	4.9	.....	5c	0	SW	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.82	757.4	29.86	758.4	81.0	27.2	.....	SW	6	2.7	.....	0	0	.....	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.66	753.4	29.85	758.2	72	22.2	70	W	8	3.6	.....	5k	5s	SW	.....	0	0	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.25	742.9	29.92	760.0	64	17.8	99	N	2	0.9	.....	5k	2ks	W	W	1.15	29.2	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	29.91	759.7	76.7	24 8	64	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	29.95	760.7	69	20.6	95	W	6	2.7	.....	.....	10n	.....	W	0.09	2.3	Light rain	H. Morgan.
Port Hastings, N. S	29.84	757.9	29.88	758.9	73.6	23.1	.....	N	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.33	745.0	29.95	760.7	69	20.6	85	W	8	3.6	.....	.....	8ks	.....	W	0.10	2.5	Cloudy	M. Payne.
*Quebec, Quebec	29.68	753.8	29.89	759.2	68	20.0	77	N	.....	.....	2	2c	2s	NE	NE	Inap.	Inap.	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.47	748.5	29.91	759.7	64	17.8	97	Calm	0	0	.....	.....	10s	.....	.....	0.42	10.7	Light rain	W. H. McIntyre.
St. Andrews, N. B	29.88	758.9	29.93	760.2	64	17.8	91	Calm	0	0	.....	.....	Fog	.....	.....	0.31	7.9	Foggy	Dr. Gove.
St. John, N. B	29.80	756.9	29.96	761.0	58	14.4	94	SE	5	2.2	.....	.....	10	.....	.....	0.10	2.5	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.24	742.7	29.92	760.0	69	20.6	88	N	8	3.6	.....	5k	0	NW	.....	0.01	0.3	Cloudy	K. Stewart.
Stayner, Ontario	29.16	740.7	29.90	759.4	68	20.0	89	N	1	0.4	.....	.....	10n	.....	N	0.08	2.0	Threatening	R. J. Cole.
Stratford, Ontario	28.68	728.5	29.90	759.4	68.8	20.4	89	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.85	758.2	29.88	758.9	79	26.1	73	W	6	2.7	.....	2c	0	.....	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.53	750.0	29.90	759.4	74	23.3	80	W	7	3.1	.....	5cs	5s	W	W	0.01	0.3	Light rain	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	58.0	14.4	94	W	.....	.....	.....	5	5n	.....	.....	0.30	7.6	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

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

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.71	754.6	29.92	760.0	76	24.4	86	S	5	2.2	.....	5ck	2s	SW	S	0.39	9.9	Fair	
Alpena, Michigan	29.29	744.0	29.90	759.4	68	20.0	79	W	7	3.1	.....	0	0	...	.....	0.66	16.8	Clear	
Atlantic City, New Jersey	30.00	762.0	30.02	762.5	66	18.9	97	S	10	4.5	.....	.....	10s	.....	S	0.40	10.2	Threatening	
Augusta, Georgia	29.96	761.0	30.14	765.5	86	30.0	68	Calm	0	0	.....	Haze	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.95	760.7	29.99	761.7	78	25.6	86	W	4	1.8	.....	2k	5s	W	W	0.58	14.7	Clearing	
Barnegat, New Jersey	29.98	761.5	30.00	762 0	63	17.2	97	S	10	4.5	.....	10k	Fog	W	S	0.32	8.1	Foggy	
Bismarck, Dakota	28.13	714.5	29.99	761.7	64	17.8	68	E	14	6.3	.....	2cs	0	SW	.....	0	0	Clear	
BoiseCity, Idaho	26.89	683.0	29.77	756.1	60	15.6	54	N	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.80	756.9	29.95	760.7	78.5	25.8	76	SW	11	4.9	.....	5k	0	SW	.....	1.55	39.4	Fair	
Brackettville, Texas	28.86	733.0	29.85	758.2	76	24.4	82	E	2	0.9	.....	0	2s	.....	S	0	0	Fair	
Breckenridge, Minnesota	29.04	737.6	30.02	762.5	58	14.4	94	S	3	1.3	.....	.....	10n	.....	S	0.01	0.3	Light rain	
Brownsville, Texas	29.92	760.0	29.98	761.5	78	25.6	95	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.20	741.7	29.85	758.2	75	23.9	81	SW	6	2.7	.....	1c	2ks	Calm	W	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.65	753.1	29.89	759.2	77	25.0	72	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.71	754.6	30.08	764.0	81	27.2	87	SW	4	1.8	.....	1c	0	SW	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	64	NE	.....	.....	1	2c	2ks	SW	Calm	0	0	Fair	
Camp Grant, Arizona	25.14	638.5	29.94	760.5	74	23.3	43	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.61	675.9	30.10	764.5	78	25.6	57	SW	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Campo, California	27.33	694.2	29.90	759.4	42	5.6	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.15	765.8	30.16	766.1	79	26.1	74	S	17	7.6	.....	2k	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	30.07	763.8	30.10	764.5	77	25.0	82	SW	18	8 0	.....	0	5s	.....	SW	0	0	Fair	
Cape Lookout, N. Carolina	30.14	765.5	30.16	766.1	81	27.2	70	SW	16	7.2	.....	2k	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.01	762 2	30.04	763.0	74	23.3	90	S	12	5.4	.....	.....	10s	.....	S	0.02	0.5	Cloudy	
Charleston, South Carolina	30.10	764.5	30.17	766.3	83	28.3	75	N	4	1.8	.....	1k	0	W	.....	0	0	Clear	
Cheyenne, Wyoming	24.04	610.6	29.98	761.5	60	15.6	82	NW	4	1.8	.....	5ck	0	SW	.....	0	0	Fair	
Chicago, Illinois	29.35	745.5	30.02	762.5	68	20.0	79	NE	6	2.7	.....	.....	10s	.....	NE	0.11	2.8	Cloudy	
Cincinnati Ohio	29.33	746.2	29.99	761.7	81	27.2	78	SW	6	2.7	.....	1ck	0	NW	.....	0	0	Clear	
Cleveland, Ohio	29.25	742.9	29.93	760.2	77	25.0	82	SW	12	5.4	.....	10k	0	W	.....	0.02	0.5	Cloudy	
Columbus, Ohio	29.20	741.7	29.96	761.0	78	25.6	82	Calm	.....	.....	0	2k	2ks	Calm	Calm	0.08	2.0	Fair	
Corpus Christi, Texas	28.10	713.7	29.71	754.6	73	22.8	81	S	.....	.....	4	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.57	751.1	30.02	762.5	75	23.9	90	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.45	748.0	30.07	763.8	68	20.0	84	NW	1	0.4	.....	Haze	7ks	Calm	NW	0	0	Cloudy	
Denison, Texas	29.23	742.4	29.99	761.7	80	26.7	78	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.79	629.6	30.01	762.2	67	19.4	60	S	5	2.2	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Detroit, Michigan	29.28	743.7	29.92	760.0	71	21.7	85	NW	8	3.6	.....	10k	0	SW	.....	0.26	6.6	Cloudy	
Dodge City, Kansas	27.38	695.4	29.54	750.3	77	25.0	69	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.39	746.5	30.07	763.8	64	17.8	83	NE	4	1.8	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Duluth, Minnesota	29.41	747.0	30.07	763.8	63	17.2	83	NE	8	3.6	.....	.....	10s	.....	NE	0.59	15.0	Cloudy	
Eagle Pass, Texas	29.24	742.7	29.96	761.0	76	24.4	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	27.84	707.1	29.90	759.4	56	13.3	87	Calm	0	0	.....	0	Fog	.....	Calm	0.07	1.8	Fair	
El Paso, Texas	.....	.....	.....	.....	84	28.9	43	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.21	741.9	29.88	758.9	78	25.6	82	SW	6	2.7	.....	5k	2s	SW	Calm	0	0	Cloudy	
Escanaba, Michigan	29.38	746.2	30.01	762.2	64	17.8	78	N	12	5.4	.....	5k	0	N	.....	0.06	1.5	Fair	
Florence, Arizona	.....	.....	.....	.....	83	28.3	56	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Fort Davis, Texas	25.25	641.3	30.21	767.3	71	21.7	63	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.49	749.0	29.99	761.7	82	27.8	79	E	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Fort Griffin, Texas	28.75	730.2	29.97	761.2	74	23.3	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Fort Sill, Indian Territory	28.79	731.3	29.85	758.2	78	25.6	78	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.99	761.7	30.02	762.5	82	27.8	83	NE	3	1.3	.....	5cs	0	NE	.....	0	0	Fair	
Grand Haven, Michigan	29.39	746.5	30.01	762.2	71	21.7	80	N	10	4.5	.....	0	0	.....	.....	0.24	6.1	Clear	
Indianapolis, Indiana	29.26	743.2	30.00	762.0	80	26.7	82	SW	4	1.8	.....	3cs;k	0	W	.....	0	0	Fair	
Indianola, Texas	29.98	761.5	30.00	762.0	81	27.2	87	E	6	2.7	.....	2k	0	SE	.....	0	0	Fair	
Jacksboro, Texas	28.88	733.5	29.96	761.0	79	26.1	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.10	764.5	84	28.9	71	SE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.37	746.0	29.95	760.7	79	26.1	78	N	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy	
Key West, Florida	29.98	761.5	30.02	762.5	83	28.3	67	E	13	5.8	.....	5k	0	E	.....	1.13	28.7	Fair	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	79	26.1	78	SW	15	6.7	.....	5k	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.15	740.4	30.12	765.0	74	23.3	86	E	1	0.4	.....	2ck	Haze	NW	Calm	0.34	8.6	Clear	
La Crosse, Wisconsin	29.33	745.0	30.05	763.3	64	17.8	100	S	1	0.4	.....	.....	Fog	.....	Calm	1.95	49.5	Foggy	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	70	21.1	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.56	750.8	29.88	758.9	78	25.6	91	Calm	0	0	.....	.....	Fog	.....	Calm	0.11	2.8	Foggy	
Lead City, Dakota	24.84	630.9	.....	.....	56	13.3	75	S	8	3.6	.....	0	0	.....	.....	0.52	13.2	Clear	
Leavenworth, Kansas	29.13	739.9	29.92	760.0	77	25.0	86	Calm	0	0	.....	5c	0	Calm	.....	0.19	4.8	Fair	
Los Angeles, California	29.51	749.5	29.84	757.9	60	15.6	82	E	3	1.3	.....	.....	10s	... ...	Calm	0	0	Cloudy	
Louisville, Kentucky	29.50	749.3	30.03	762.7	82	27.8	71	SW	3	1.3	.....	2k	Haze	NW	Calm	0	0	Fair	
Lynchburg, Virginia	29.30	746.5	30.03	762.7	79	26.1	78	SW	2	0.9	.....	0	8ks	.....	W	0.02	0.5	Cloudy	
Marquette, Michigan	29.35	745.5	30.04	763.0	58	14.4	82	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Mason, Texas	28.37	720.6	30.06	763.5	75	23.9	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.76	755.9	30.06	763.5	81	27.2	78	SW	1	0.4	.....	1c	0	SW	.....	0	0	Clear	
Milwaukee, Wisconsin	29.31	744.5	30.01	762.2	67	19.4	89	N	7	3.1	.....	0	0	.....	.....	0.48	12.2	Clear	
Mobile, Alabama	30.01	762.2	30.06	763.5	81	27.2	78	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.86	758.4	30.09	764.3	81	27.2	66	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	29.02	737.1	30.02	762.5	76	24.4	82	SW	8	3.6	.....	.....	10s	.....	SW	0.20	5.1	Cloudy	
Mt. Washington, N. H.	28.95	608.3	30.31	769.9	56	13.3	87	SW	6	2.7	.....	2c	Haze	NW	Calm	0	0	Clear	
Nashville, Tennessee	29.57	751.1	30.08	764.0	78	25.6	82	Calm	0	0	.....	Haze	5s	Calm	Calm	Inap.	Inap.	Fair	
New Haven, Connecticut	29.87	758.7	29.98	761.5	75	23.9	90	S	1	0.4	.....	.....	Fog	.....	.....	0.60	15.2	Foggy	
New London, Connecticut	29.95	760.7	30.01	762.2	73	22.8	95	SW	6	2.7	.....	.....	10s;fg	.....	SW;Calm	0.77	19.6	Cloudy	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	83	28.3	71	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.94	760.5	29.99	761.7	68	20.0	100	SW	10	4.5	.....	.....	Fog	.....	SW	0.48	12.2	Foggy	
New York, New York	29.83	757.7	30.00	762.0	75	23.9	95	SW	7	3.1	.....	.....	10s	.....	Calm	1.26	32.0	Cloudy	
Norfolk, Virginia	30.05	763.3	30.10	764.5	82	27.8	71	S	10	4.5	.....	2k	Haze	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.01	686.0	29.43	747.5	71	21.7	95	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Olympia, Washington Ter.	29.69	754.1	29.73	755.1	53	11.7	79	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.82	732.0	29.84	757.9	70	21.1	90	SE	14	6.3	.....	.....	10s	.....	S	2.29	58.2	Cloudy	
Oswego, New York	29.62	752 3	29.92	760.0	75	23.9	77	S	8	3.6	.....	2c	0	SW	.....	0	0	Fair	
Pembina, Dakota	29.24	742.7	30.06	763.5	54	12.2	93	NE	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Philadelphia, Pennsylvania	29.95	760.7	30.00	762.0	76	24.4	95	SW	12	5.4	.....	.....	10n	.....	SW	0.54	13.7	Light rain	
Phœnix, Arizona	23.63	723.5	.....	.....	96	35.6	37	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.08	459.2	30.28	769.1	38	3.3	45	S	26	11.6	.....	8k	0	S	.....	0	0	Fair	
Pioche, Nevada	23.97	608.8	29.74	755.4	60	15.6	10	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.20	741.7	29.97	761.2	76	24.4	86	W	11	4.9	.....	5k	0	W	.....	0.10	2.5	Fair	
Port Huron, Michigan	29.29	744.0	29.93	760.2	69	20.6	80	N	7	3.1	.....	10k	0	W	.....	0.08	2.0	Cloudy	
Portland, Maine	29.84	757.9	29.89	759.2	77	25.0	77	Calm	0	0	.....	0	Haze	.....	.....	Inap.	Inap.	Clear	
Portland, Oregon	29.74	755.4	29.84	757.9	59	15.0	70	S	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.76	628.9	30.12	765.0	65	18.3	49	Calm	.....	.....	0	0	2ks	.. .. ..	SW	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.04	763.0	30.06	763.5	80	26.7	82	E	8	3.6	.....	5c	0	.....	.....	0.28	7.1	Fair	
Red Bluff, California	29.48	747.5	29.78	756.4	64	17.8	62	S	8	3.6	.....	2c	Haze	Calm	.....	0	0	Fair	
Rochester, New York	29.28	743.7	29.86	758.4	77	25.0	77	SW	11	4.9	.....	5clk	0	W	.....	Inap.	Inap.	Fair	
Roseburg, Oregon	29.31	744.5	29.87	758.7	55.5	13.1	84	Calm	0	0	.....	.....	10s	.....	SW	0	0	Cloudy	
Sacramento, California	29.72	754.9	29.81	757.2	66	18.8	81	S	11	4.9	.....	0	1s	.....	S	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.02	762.5	82	27.8	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.06	763.5	30.07	763.8	79	26.1	87	SE	8	3.6	.....	5k	0	S	.....	0.48	12.2	Fair	
St. Paul, Minnesota	29.19	741.4	29.98	761.7	66	18.9	90	S	2	0.9	.....	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Salt Lake City, Utah	25.49	647.4	29.82	757.4	70	21.1	32	E	6	2.7	.....	2clk	0	S	.....	0	0	Fair	
San Antonio, Texas	29.33	745.0	29.89	759.2	77	25.0	91	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.81	757.2	29.85	758.2	62	16.7	83	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.31	744.5	29.94	760.5	78	25.6	82	W	10	4.5	.....	1k	0	NW	.....	0	0	Clear	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	76	24.4	91	W	9	4.0	.....	.....	10ks	.....	W	0.12	3.0	Cloudy	
San Francisco, California	29.81	757.2	29.88	758.9	52	11.1	93	W	8	3.6	.....	.....	Fog	.....	W	Inap	Inap.	Foggy	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	67	19.4	46	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	30.04	763.0	30.13	765.3	84	28.9	83	W	2	0.9	.....	2k	0	Calm	.....	0	0	Clear	
Shreveport, Louisiana	29.85	758.2	30.06	763.5	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0.24	6.1	Clear	
Silver City, New Mexico	24.32	617.7	30.27	768.8	65	18.3	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.13	765.3	30.16	766.1	81	27.2	78	SW	4	1.8	.....	0	8ks	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.78	756.4	29.91	759.7	75	23.9	86	S	4	1.8	.....	.....	10s	.....	S	Inap	Inap	Cloudy	
Stockton, Texas	29.93	684.0	29.93	760.2	69	20.6	85	SE	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.89	759.2	29.94	760.5	67	19.4	95	SW	8	3.6	.....	.....	Fog	.....	.....	1.42	36.1	Dense fog	
Toledo, Ohio,	29.28	743.7	29.91	759.7	81	27.2	70	W	8	3.6	.....	0	2ks	.....	Calm	0	0	Clear	
Tucson, Arizona	27.31	693.7	29.86	758.4	84	28.9	46	SW	.....	.....	1	0	8ks	.....	S	0	0	Fair	
Tybee Island, Georgia	30.09	764.3	30.12	765.0	85	29.4	72	SW	2	0.9	.....	0	5ks	.....	SW	0	0	Fair	
Umatilla, Oregon	29.33	745.0	.....	.....	70	21.1	48	SW	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	
Vicksburg, Mississippi	29.84	757.9	30.09	764.3	77	25.0	91	Calm	0	0	.....	0	0	.....	.....	0.72	18.3	Clear	
Virginia City, Montana	24.19	614.4	29.67	753.6	52	11.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.48	748.8	29.84	757.9	63	17.2	67	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.92	760.0	30.03	762.7	78	25.6	86	S	7	3.1	.....	2ck	5ks	Calm	Calm	0.21	5.3	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	5	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.07	763.8	30.15	765.8	70	26.1	82	SW	6	2.7	.....	10k	0	SW	.....	0	0	Cloudy	
Winnemucca, Nevada	25.47	646.9	29.88	757.7	61	16.1	26	SW	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Wood's Holl, Mass	29.95	760.7	30.00	762.0	68	20.0	100	SW	10	4.5	.....	.....	10s;fg	.....	.....	0.28	7.1	Foggy	
Yankton, Dakota	28.67	728.2	29.91	759.7	66	18.9	89	SE	6	2.7	.....	2cs	5s	W	W	2.10	53.3	Clearing	
Yuma, Arizona	29.60	749.3	29.95	753.1	78	25.6	65	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.79	756.7	29.84	757.9	61.0	16.1	74	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.95	760.7	29.97	761.2	82	27.8	78	SE	3.6	1.6	.....	8c	2ks	Calm	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.05	763.3	30.06	763.5	82	27.8	91	Calm	0	0	.....	10c	8n	Calm	.....	0.06	1.5	Fair	F. M. Everett.
Navassa, W. I.	29.84	757.9	29.92	760.0	80	26.7	.....	NE	7.5	3.4	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.01	762.2	30.01	762.2	82	27.8	83	NE	.....	.....	2	0	5k	.....	.....	0	0	.....	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	67.2	19.6	85	E	7	3.1	.....	3cs	4ks	.....	.....	0.68	16.0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m.; Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,587 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,323 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.81	757.2	56	13.3	54	12.2	87	WSW	17	7.6	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
Navy Yard, Pensacola, Fla.	30.20	767.1	84	28.9	84	28.9	83	ENE	8	3.6	.....	.....	5	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.20	767.1	82	27.8	76	24.4	82	W	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.64*	752.8*	77.5	25.3	78	25.6	78	SW	.....	.....	3	.....	8ks	.....	SW	0	0	.....	.....	Cloudy	
Alliance, N. 49° 06′, W. 4° 12′	30.07‡	763.8‡	.....	.....	62	16.7	94	N	.....	.....	3–5	.....	9	.....	N	.....	.....	Light	N	Misty	
Ashuelot, Nagasaki, Japan	29.88	758.9	82	27.8	81	27.2	91	SW	.....	.....	6	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Alaska, N. 7° 18′, W. 32° 44′	30.10	764.5	80	26.7	80	26.7	87	SW	.....	.....	2	.....	9	.....	SW	.....	.....	Long	SSE	Cloudy	
Canonicus, New Orleans, La.	30.07	763.8	57	13.9	80	26.7	91	NE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....	Clear	
Colorado, New York, N. Y.	30.00‡	762.0‡	.....	.....	77	25.0	86	SW	5	2.2	.....	.....	10	.....	SW	1.3	33.	.....	.....	*Threatening*	
Constellation, N. 39° 54′, W. 73° 56′	30.07‡	763.8‡	.....	.....	75	23.9	95	SW	.....	.....	2	.....	10	.....	S&W	.....	.....	Smooth	.....	*Foggy*	
Constitution, Havre, France	30.00‡	762.0‡	.....	.....	62	16.7	94	WNW	.....	.....	2	.....	9	.....	W	.....	.....	.....	.....	Cloudy	
Despatch, Prince's Islands, Sea of Marmora	29.95‡	760.7‡	.....	.....	79	26.1	66	Calm	.....	.....	0	.....	Haze	.....	.....	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.98‡	761.5‡	.....	.....	72	22.2	100	Calm	.....	.....	0	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Franklin, *Norfolk*, Va.	30.21	767.3	79	26.1	78	25.6	78	SW	12	5.4	.....	.....	2	.....	SW	0	0	.....	.....	Hazy	
Gettysburg Alexandria, Egypt	29.75‡	755.6‡	.....	.....	80	26.7	77	NNW	.....	.....	2	.....	0	.....	.....	*0*	*0*	.....	.....	Clear	
Guard, Rio de Janeiro, Brazil	30.20	767.1	71	21.7	70	21.1	85	SW	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Misty	
Hartford, Rio de Janeiro, Brazil	30.19	766.8	.....	.....	69	20.6	90	WNW	6.0	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Marion, Villefranche, France	30.05	763.3	76	24.4	77	25.0	77	S	.....	.....	1	.....	8	.....	W	Light	Light	.....	.....	Fair	
Michigan, Erie, Pa.	29.44	747.8	78	25.6	78	25.6	78	WNW	.....	.....	2	.....	8	.....	WNW	.....	.....	.....	.....	Cloudy	
Monocacy, Yokohama, Japan	29.62‡	752.3‡	.....	.....	77	25.0	91	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.36†	771.1†	.....	.....	81	27.2	83	Calm	0	0	.....	.....	5	.....	ESE	0	0	.....	.....	Fair	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	61	16.1	88	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	29.79	756.7	89	31.7	82	27.8	67	ESE	.....	.....	1	.....	5	.....	S;W	.....	.....	.....	.....		
Pensacola, Mare Island, California	29.93	760.2	60	15.6	55	12.8	87	SW	10	4.5	.....	.....	9	.....	SW	.....	.....	.....	.....	Cloudy	
Plymouth, New York, N. Y.	30.00‡	762.0‡	.....	.....	77	25.0	91	SSW	.....	.....	1–2	.....	10	.....	.....	.....	.....	.....	.....	Misty	
Ranger, Hong-Kong, China	29.94*	760.5*	.....	.....	87	30.6	79	S	.....	.....	2	.....	1	.....	Calm	.....	.....	.....	.....	*D. clouds*	
Rio Bravo, Brownsville, Texas	29.95	760.7	78	25.6	78	25.6	95	ENE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	*Cloudy*	
Santee, Annapolis, Md	30.03‡	762.7‡	.....	.....	78	25.6	86	SW	.....	.....	2	.....	8	.....	W	0.11	2.8	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.88	761.5	60	26.7	78	25.6	91	SW	10	4.5	.....	.....	10	.....	SW	0.35	8.9	.....	.....	Raining	
Supply, Havre, France	30.07	763.8	65	18.3	63	17.2	83	NW	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	29.95‡	760.7‡	.....	.....	75	23.9	100	WSW	.....	.....	2	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Trenton, Leghorn, Italy	30.02‡	762.6‡	.....	.....	74	23.3	95	SSE	.....	.....	3	.....	5	.....	S	0	0	.....	.....	Cloudy	
Tuscarora, N. 17° 55′, W. 102° 08′	29.69	754.1	79	26.1	79	26.1	86	ENE	.....	.....	1	.....	8	.....	Calm	*0*	0	Smooth	.....	Fair	
Vandalia, N. 36° 22′ E. 27° 04′	29.81‡	757.2‡	.....	.....	79	26.1	70	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Smooth	NW	Clear	
Wabash, Boston, Mass.	29.91‡	759.7‡	.....	.....	84	28.9	71	S	7	3.1	.....	.....	5	.....	Calm	2.23	*56.6*	.....	.....	Fair	
Wyoming, N. 62° 28′, W. 32° 15′	29.83	757.7	65	18.3	55	12.8	87	WSW	.....	.....	5	.....	10	.....	W	.....	.....	Mod'ate	W	Foggy	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
S. S. Alaska																			
S. S. China, N. 27° 17′, E. 123° 04′		29.87*	758.7*	84	28.9	100	SSW			5		6		SSW	0	Mod'ate	SSW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		29.82*	757.4*				SE			3		10						Overcast	Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, New York, N. Y.		29.99*	761.7*	79	26.1		S			2		10		SW	5 hours			Overcast	Capt. B. Gleadell.
S. S. Germanic, N. 46° 16′, W. 48° 18′		30.08†	764.0†	50	10.0	93	SSW			4		10			5 hours	Light	W	Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, Yokohoma, Japan		29.77*	756.1*	80	26.7	96	S			4		k		Var.	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 48° 10′, W. 36° 11′		30.14	765.5	68.0	20.0	74	SSW			4		5		SW			SW		
S. S. Leipzig																			Capt. Undütsch.
S. S. Nürnberg																			Capt. F. Pfeiffer
S. S. Ohio																			Capt. A. Jaeger.
																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Mersey River		30.09*	764.8*	58	14.4	94	NW			8		8		NW	Light			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.01	762.2	80	26.7	91	WSW			3		8		WSW	Light			Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.96†	761.0†	64	17.8	100	W			3		9		W	0			Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°, W. 66°		29.71*	754.6*	41.0	5.0	76	SE			2		10s		SE	0.02 in or 0.5 mm.			Drizzling	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 11, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum't'l error and temperature. Inches.	Barometer. Corrected for instrum't'l error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			29.99	761.7	70.3	21.3	84	NE			3		1			0	0	Very fair	Dr. Ollive.
Nemours			30.05	763.2	77.7	25.4	77	N			3		4			0	0	Cloudy	Michel.
Algiers			29.99	761.8	79.2	26.2	73	N			2		2			0	0	Fair	Tourtiliere.
La Calle			30.01	762.2	83.7	28.7	70	N			3		5			0	0	Cloudy	Foufrede.
Tunis			29.98	761.4	107.6	42.0		SW			3		0			0	0	Clear	Jacques.
Sfax			30.07	763.7	87.8	31.0		SSE			2		1			0	0	Very fair	Gau.
Saida			30.10	764.5	86.0	30.0	36	N			1		0			0	0	Clear	Herbin.
Tebessa			30.07	763.8				S			4		1			0	0	Very fair	Watrin.
Geriville			30.10	764.5	88.5	31.4		S			3		5			0	0	Cloudy	Brugniaux.
Laghouat			30.06	763.5	97.2	36.2	14	E			1		0			0	0	Clear	Bertrand.
Biskra			30.03	762.8	104.0	40.0		E			1		1			0	0	Very fair	Chauvaux.

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

AUSTRIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum't'l error and temperature. Inches.	Barometer. Corrected for instrum't'l error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.33	745.0	29.86	758.5	68.2	20.1	70	NE			2		10			0.339	8.6	Raining	Prof. Ivan Stossa.
Cracow, I. R. Observatory	29.00	736.6	29.75	755.6	63.7	17.6	78	W			3		8			0.114	2.9		Dr. Wierzbicki.
Eperies	28.85	732.8	29.68	753.9	76.0	24.8	60	NW			2		6c;s			0	0		Julius Mikolik.
Gratz	28.66	728.0	29.59	751.1	64.0	17.8	88	SSE			2		10			0.563	14.30		Andreas Rospini.
Hermannstadt	28.42	721.9	29.77	756.2	74.1	23.4	59	NW			4		5			0	0	Threatening	Prof. Reissenberg
Kremsmünster	28.49	723.7	29.80	757.0	61.5	16.4	85	WSW			2		10			0.189	4.8		Prof. C. Wagner
Lemberg	28.73	729.7	29.68	753.9	66.4	19.1	75	SW			2		9			0.075	1.9		Dr. T. Stanecki.
Pola	29.72	755.0	29.84	757.8	76.8	24.9	72	S			1		10s			0	0		I.R.Hydrographic Office
Szathmar	29.48	748.8	29.77	756.2	71.2	21.8	70	SW			3		3			0.579	14.7		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.74	755.5	29.85	758.1	77.5	25.3	69	Calm			0		10			0	0	Cloudy	P. Busin.
Vienna	29.16	740.6	29.85	758.3	63.5	17.5	78	W			1		10			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum't'l error and temperature. Inches.	Barometer. Corrected for instrum't'l error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.45	722.5	29.94	760.5	67.6	14.2	75	W			2		10			0.067	2.2	Light rain	Prof. M. Passau.
Brussels	29.06	753.4	29.86	758.4	59.5	15.3	75	W			4		10		W	0.433	11.00		Royal Observatory
Furnes	29.87	758.6	29.89	759.2	61.2	16.2	76	WSW			4		10			0.016	0.4		M. E. de Cae.
Maeseyck	29.76	755.8	29.88	759.0	58.3	14.6	93	W			4		10			0.028	0.7		M. Pierrot.

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

BRITISH SERIES.

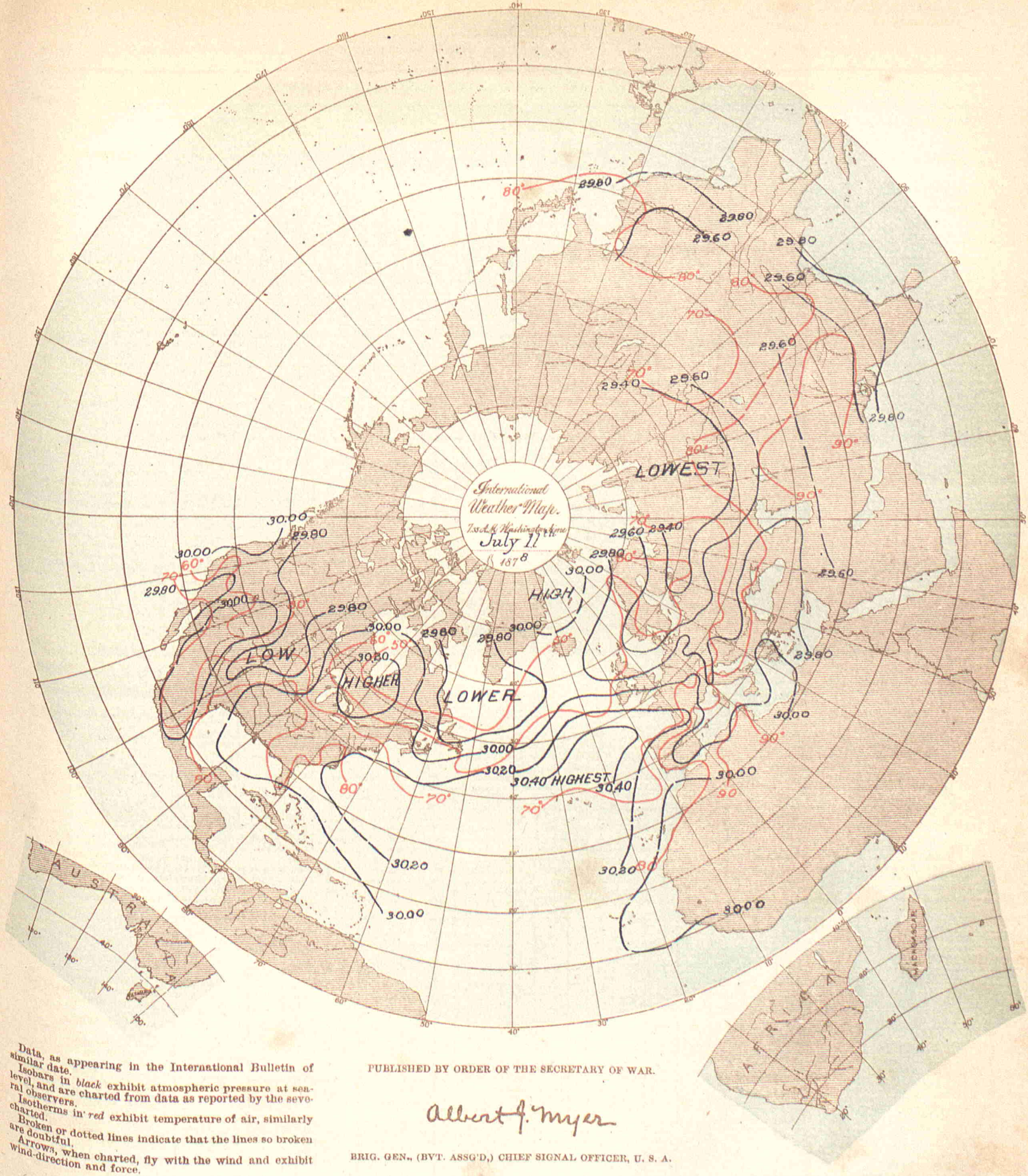
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.62	752.3	29.71	754.6	59.0	15.0	.....	WNW	14	6.3	.....	.....	9	.....	.....	0.050	1.27	Overcast	W. Boswell.
Ardrossan	29.77	756.1	29.79	756.7	58	14.4	.....	WNW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	29.92	760.0	62.2	16.8	.....	WNW	10	4.5	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.86	758.4	57.9	14.4	.....	W	23	10.3	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.01	762.2	58 8	14.9	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Showery	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.40	746.7	29.79	756.7	62.4	16.9	.....	W	.....	.....	4	.....	5	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.94	760.5	29.97	761.2	82	27.8	.....	SE	.....	.....	3	.....	4?	.....	.....	.....	.....	Overcast?	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.84	757.9	62.0	16.7	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [H.C.
Cardington	.....	.....	29.88	758.9	62.0	16.7	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.73	755.1	29.86	758.4	61.2	16.2	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Lt. W. G. Morris, R. E.
Dartmoor	28.58	725.9	30.04	763.0	56.0	13.3	.....	NW	.....	.....	3	.....	6	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.83	757.7	29.86	758.4	59	15.0	.....	WNW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.84	757.9	29.86	758.4	62	16.7	.....	WNW	.....	.....	3	.....	5	.....	.....	.....	.....	¾ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	29.83	757.7	57.0	13.9	.....	W	5.4	2.4	.....	.....	10	.....	.....	.....	.....	Showery	Thomas Mackereth.
Falmouth, Observatory	29.84	757.9	30.06	763.5	64.5	18.1	.....	WNW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.91	759.7	74.8	23.8	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.86	758.4	30.09	764.3	78	25.6	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.98	761.5	60	15.6	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.95	760.7	30.00	762.0	75.6	24.2	.....	E	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.56	750.8	29.77	756.1	60.0	15.6	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	29.79	756.7	29.80	756.9	60	15.6	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	G. T. Watson.
Greenwich, Royal Obs'y	29.70	754.4	29.87	758.7	63.6	17.6	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	29.83	757.7	30.04	763.0	63	17.2	.....	WNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.06	763.5	67	19.4	.....	WNW	.....	.....	4	.....	3c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.87	758.7	29.92	760.0	60	15.6	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.79	756.7	30.08	764.0	62.8	17.1	.....	WNW	.....	.....	5	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	29.89	759.2	63.5	17.5	.....	W	14	6.3	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.92	760.0	29.95	760.7	61	16.1	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.85	758.2	60.2	15.7	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.79	756.7	29.87	758.7	83.6	28.7	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Overcast	Sgt. Hewitt A. H. C.
Nairn	29.64	752.8	29.72	754.9	60	15.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.92	760.0	80.0	26.7	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.67	753.6	29.86	758.4	63.0	17.2	.....	WSW	.....	.....	4	.....	10k;d	.....	W	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.35	745.5	29.87	758.7	58.0	14.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.90	759.4	63	17.2	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H.E. Bellamy.
Plymouth	29.95	760.7	30.03	762.7	62.1	16 7	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	30.01	762.2	30.05	763.3	62	16.7	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.84	757.9	30.00	762.0	59	15.0	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.69	754.1	53.9	12.2	.....	W	17	7.6	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.88	758.9	94.0	34.4	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.56	750.8	29.84	757.9	64.0	17.8	.....	W	.....	.....	6	.....	7	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.76	755.9	29.79	756.7	68.6	20.3	60	SW	.....	.....	2	.....	4	.....	.....	0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.44	747.8	29.81	757.9	59.0	15.0	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stornoway, Lews C. (Hebr.)	29.70	754.4	29.73	755.1	57	13.9	.....	WNW	.....	.....	5	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.70	754.4	29.91	759.7	63.1	17.3	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.69	754.1	55	12.8	.....	WNW	.....	.....	3	.....	10 *	.....	.....	.....	.....	Showery	John Trotter.
Truro, Royal Institution	.....	.....	30.09	764.3	62	16.7	.....	NW	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	30.10	764.5	61.3	16.3	.....	NW	16	7.2	.....	.....	4	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Francis Abbott, F.R.A.S.
Leith, Restairig Park	.....	.....	30.14	765.5	52.0	11.1	86	SW	.....	.....	3	.....	4k	.....	.....	0	0	.....	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764.9	70.9	21.6	91	SSE	5.0	2.2	.....	.....	10	.....	.....	2.06	52.3	Raining	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.15	765.8	43.8	6.3	77	SE	16	7.2	.....	.....	6	.....	.....	0.11	2.8	Fine	R. L. J. Ellery.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
																			Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 41° 45′ W. 60° 30′	3	.....	D. clouds	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 61° 12′, W. 48° 10′	.....	.....	Foggy	Capt. Alex Simpson
Barque Virginia, N. 46° 50′, W. 44° 45′	3	W	Foggy	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 280 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7			65.8	18.6	83	E			1	8cs	1s			0.23	5.8		Federico Maison

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

DANISH SERIES.

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

Copenhagen	29.50	749.3	29.55	750.5	63.5	17.5	65	NW			2		7						
Farôe	29.56	750.8	29.58	751.3	62.2	16.8	81	W			4		6						
Godthaab, (Greenland)	29.72	754.8	29.76	755.9	39.6	4.2		S			2		9						
Stykkisholm, (Iceland)	29.80	756.9	29.84	758.0	54.7	12.6	77	E			4		8						
Thorshavn, (Farôe)	29.70	754.3	29.73	755.2	54.1	12.3	88	E			2		10						
Vestervig	29.37	746.1	29.54	750.4	61.5	16.4	79	WSW			2		7						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.54	750.3	30.09	764.3	68.0	20	57	W			2		5		NW	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.84	757.8	29.94	760.5	68.7	20.4	69	W			3		2		W	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.89	759.2	29.97	761.2	84.2	29	44	NNW			2		2		WNW	0	0	Partly cl'dy	Mr. Giraud, Director.
Bar-sur-Seine	29.46	748.3	30.02	762.5	62.8	17.1	65	W			2		10			0.240	6.1	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.71	754.6	29.99	761.7	65.8	18.8	59	W			3		10		WNW	0.008	0.20	Covered	Normal School.
Besançon	29.13	740.0	30.01	762.2	65.5	18.6	68	E			4		10		SW	0.193	4.9	Covered	Normal School.
Bourg-en-Bresse	29.21	741.8	30.14	765.6	68.5	20.3	68	SW			6		5n		NW	0.08	2.	Cloudy	Normal School.
Bourges, Normal School	29.50	749.2	30.08	764.1	66.6	19.2	67	SW			4		n		SW	0.031	0.8		A. Wagner, Director.
Brest, Naval Observatory	29.83	757.6	30.07	763.7	69.4	20.8	54	NW			3		7		NW	0	0		The Staff.
Carcassonne, Normal School	29.67	753.7	30.07	763.7	82.0	27.8	27	W			2		5		W	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.41	747.1	29.96	761.0	67.1	19.5	81	W			4		10		E	0	0	Covered	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.65	753.0	29.97	761.1	68.6	14.8	84	W			3		10ck		W	0.004	0.1	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.71	729.3	30.02	762.0	71.2	21.8	41	W			2		5		W	0	0	Cloudy	Alluard, Director.
Commercy, Normal School	29.10	739.1	29.97	761.1	60.1	15.6	76	W			6		10		E	0.287	7.3	Covered	Dr. Coulet, Director.
Commune de Grênsque*	28.89	733.7	30.03	762.7	81.9	27.7	27	NW			4		2		NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.91	759.8	30.12	765.1	67.6	19.8	57	WNW			6		2		NE	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.77	756.1	30.07	763.8	66.2	19	59	NW			4		5		NW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.16	740.6	30.10	764.6	67.5	19.7	60	W			3		10		E	0.220	5.60	Covered	Baudry, Director.
Lorient, Naval Observatory	30.07	763.6	30.16	766.1	69.1	20.6	54	WNW			2		10		NW	0	0	Covered	T. Carré, Director.
Mâcon, Normal School	29.35	745.6	30.02	762.6	68.2	20.1	64	NW			6		5		NW	0.102	2.6	Cloudy	M. Galzin, Director.
Mirecourt	28.93	734.9	29.96	761.0	63.9	17.7	75	SW			2		10		NE	0	0	Covered	Normal School
Nismes, Normal School	29.76	755.8	29.95	760.7	82.8	28.2	37	NW			1		5		NW	0	0	Cloudy	Boyer, Director.
Orleans, Normal School	29.04	752.9	30.02	762.4	72.5	22.5	61	W			2		10			0.04	1.	Covered	Bernard, Director.
Paris, Observatory	29.73	755.7	29.99	761.7	63.7	17.6	62	W			1		10		W	0	0	Covered	National Observatory.
Privas	29.00	736.5	30.02	762.4	77.0	25	51	S			6		10		S	0	0	Covered	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.13	765.3	30.16	766.1	76.3	24.6	40	W			2		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	29.91	759.6	29.99	761.8	66.7	19.3	58	W			3		8		W	0	0	Very clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.14	740.1	30.21	767.2	64.4	18	80	SW			2		10			0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.34	745.1	30.02	762.6	73.0	22.8	83	W			4		2		W	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.83	757.7	80.6	27										0	0		L'Abbé Marchés.
Lyons			30.09	764.2	75.6	24.2	29					5				0	0		L. Jays.
Marseilles, Observatory			29.91	759.7	77.0	25.0	46	W			4	1				Inap.	Inap.		The Staff.
Mont-Louis	24.94	633.5	30.26	768.5	61.2	16.2	57	WSW	5.6	2.50		0				0.150	3.8		M. Cave.
Nice			29.87	758.7	75.2	24.0	69	SE			1	0				0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.71	754.6	29.98	761.6	64.0	17.8	67	WNW			2	10			NW	0	0		Marié Davy, Director
Perpignan			30.07	763.6	77.4	25.2	56	NE	22.4	10.00		4			W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.68	576.0			48.9	9.4		SW			2	5				0.189	4.8	Stormy	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.83	757.7	30.00	761.9	63.9	17.7	67	WSW			1	10			W	0.004	0.1		E. Renou.
Toulouse, Observatory	29.46	748.3	30.19	766.8	67.8	19.9	63	WNW			3	8				0	0		The Staff.
Tours	29.85	758.3	30.05	763.3	68.4	20.2	55	W			3	8			W	0.008	0.2		C. Marquet.
Versailles, (near Paris)			30.09	764.0	64.8	18.2	65	NW			3	10				0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.66	753.4	29.69	754.0	77.0	25.0	96	ENE	5.4	2.4		10ck		W		0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grênsque, 332 m., or 1,033.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,336 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.98	736.1	29.82	757.4	72.5	22.5	52	W			5		8	W		0.04	1.	Raining	Prof. Dr. Hoh.
Berlin	29.56	750.7	29.72	755.0	62.4	16.9	78	SW			1		10			0.252	6.4	Raining	Prof. Arndt.
Breslau	29.26	743.3	29.79	756.7	64.4	18.0	60	W			3		8			Inap.	Inap.		Royal University Obs'y
Carlsruhe	29.46	748.2	29.87	758.7	68.4	20.2	65	SW			4		10			0.004	0.1	Light rain	Albert Senz.
Cassel	29 14	740.2	29.74	755.5	64.0	17.8	63	W			3		10	WSW		0.323	8.19		Dr. H. Möhl.
Crefeld	29.65	753.0	29.81	757.1	58.8	14.9	89	N			4		10			0.20	5.	Raining	Director Lose.
Emden	29.74	755.5	29.78	756.5	54.9	12.7	90	W			5		10			0.622	15.8		Prof. Prestel.
Frankfort on the Main	29.49	749.0	29.84	757.9	69.8	21		W			4		10			0.008	0.2		Physical Society.
Friedrichshafen	28.54	725.0	29 96	761.0	59.7	15.4	87	WNW			6		10	WNW		0.169	4.3	Raining	M. Wilhelm.
Hamburg	29.60	751.9	29.67	753.7	61.0	16.1	89	WNW			3		10			0.169	4.3	Raining	Captain F. Hegemann.
Kiel	29.60	751.8	29.61	752.2	64.6	18.1	58	W			3		10			0.017	0.43		Prof. G. Karsten.
Königsberg, (Prussia)	29.45	748.0	29.53	750.0	63.5	17.5	69	W			5		6			0.213	5.4		Prof. E Luther.
Köslin			29.81	757.2	60.8	16.0		W			2		3			0.280	7.1		H. Müller.
Leipsic, Observatory	29.38	746.3	29.79	756.7	65.5	18.6	64	SW			4		9	W		0.091	2.3		Prof. Bruhns.
Memel, Naval School	29.45	748.0	29.50	749.2	61.0	16.1	82	Calm			0		7ks						Reinbrecht and Skalweit.
Neufahrwasser	29.56	750.9	29.58	751.3	66.2	19.0	49	WNW			4		6	W		0	0		A. Lothes.
Posen	29.49	749.0	29.77	756.2	66.9	19.4	56	W			6		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.39	746.6	29.93	760.1	70.0	21.1	50	W			4		10	W		0.156	3.95		Astronomical Observatory.
Stuttgart	28.95	735.2	29.86	758.4	66.6	19.2	57	W			1		9	W		0.094	2.4		Prof. Schoder.
Treves, (Trier)	29 26	743.3	29.78	756.5	63.5	17.5	65	W			4		10			0.051	1.29		Prof. Flesch.
Weissenburg, (Bavaria)	28.40	721.3	29.83	757.6	64.9	18.3	55	W	4	2			9ck		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.63	752.7	29.67	753.7	63.5	17.5	70	WSW			3		6			0.067	1.7		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.55	750.5	29.91	759.8	93.4	34.1		NE			2.0							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.60	751.8	29.65	753.0	88.3	31.3	66	WSW	41?	18.3?			5		WSW	0	0	D. clouds	
Deesa	29.20	741.8	29.66	753.4	94.9	34.9	53	SSW					5	W		0	0	Misty	
Bombay	29.74	755.3	29.78	756.3	83.6	28.7	81	WSW	13	5.8			6	NW	SW	0	0	D. clouds	
Poona	27.77	705.4	29.78	756.3	77.2	25.1	76	NW					10		W	0.02	0.5	D. clouds	
Lahore	28.82	731.9	29.53	750.1	95.0	35.0	45	NE	7.8	3.5			0			0	0	Blue sky	
Belgaum	27.29	693.2	29.83	757.7	74.6	23.7	87	W	10	4.5			9		W	0.02	0.5	D clouds	
Bangalore																			
Roorkee	28.66	727.9	29.53	750.1	89.8	32.1	68	Calm	2.3	1.0			4			0	0		
Agra	29.01	736.8	29.56	750.7	92.6	33.7	59	SW								0	0		
Trichinopoly																			
Nagpur	28.64	727.4	29.67	753.6	85.4	29.7	74	Calm	4.5	2.0			10		E	0.30	7.6	Overcast	
Madras																			
Lucknow	29.22	742.2	29.59	751.6	81.5	27.5	93	W	1.0	0.4			0			0	0	Blue sky	
Allahabad	29.27	743.3	29.57	751.1	89.0	31.7	79	Calm	1.2	0.5			10	W		0.24	6.1	Overcast	
Patna	29.42	747.2	29.60	751.8	79.3	26.3	89	W	1.0	0.4			10	E	E	2.89	73.4	Overcast	
Hazaribagh	27.66	702.4	29.66	753.2	78.6	25.9	86	W	9.7	4.3			10		W	0	0	Thunder; lightn'g	
Cuttack	29.60	751.9	29.68	754.0	88.1	31.2	62	SW	6.1	2.7			4			0	0	D. clouds	
Calcutta (Alipore)	29.67	753.7	29.70	754.3	83.0	28.3	86	SW	1	0.4			10	S		0	0	Overcast	
Goalpara	29.27	743.5	29.66	753.4	76.0	24.4	93	SSW	2	0.9			9			2.14	54.4	D. clouds	
Chittagong	29.67	753.7	29.76	756.0	84.9	29.4	87	S	14.4	6.4			10					Drizzling	
Sibsagar	29.32	744.6	29.65	753.1	82.3	27.9	86	NW	4.9	2.2			10	W	W	1.25	31.8	D. clouds	
Rangoon																			
Jubbulpore	28.31	719.0	29.66	753.3	82.5	28.1	70	S	4.6	2.1			9	W		0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	—10	0—10.	0 10	From—	From—	Inches	Millimeters.		
Udine	29.42	747.2	29.81	757.2	68.4	20.2	91	E	1.8	0.8	.....	.....	10	.....	.....	0.461	11.7	.....	Prof. Giovanni Clodig.
Padua	29.71	754.5	29.81	757.2	78.8	26.0	58	SSW	9.4	4.2	.....	.....	8	SW	.....	0.220	5.6	.....	Prof. Dott. Lorenzoni
Vicenza	29.63	752.5	29.81	757.2	78.3	25.7	67	S	4.3	1.9	.....	.....	5	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.53	724.6	29.79	756.7	78.4	25.8	55	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.29	744.0	29.78	756.5	84.2	29.0	.....	WSW	.....	.....	1	.....	5	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.92	734.6	29.78	756.5	80.6	27.0	50	E	2.5	1.1	.....	.....	3	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.96	710.1	29.78	756.3	77.9	25.5	51	SE	.....	.....	4	.....	1	WSW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.65	753.1	29.87	758.6	77.7	25.4	59	S	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.71	754.6	29.87	758.8	76.5	24.7	73	SE	11.2	5.0	.....	.....	2	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.52	749.7	29.82	757.3	81.3	27.4	42	SSW	.....	.....	8	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.61	752.1	29.85	758.3	83.8	28.8	48	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	Cav. F Meucci.
Leghorn	29.78	756.8	29.86	758.4	78.4	25.8	66	S	12.5	5.6	.....	.....	3	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.84	758.0	29.89	759.2	70.7	21.5	57	S	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.40	721.3	29.89	759.1	78.1	25.6	32	SW	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.80	757.0	29.91	759.7	81.7	27.6	51	SSE	.....	.....	2	.....	3	S	.....	0.012	0.3	.....	Avv. P. Ponticelli.
Rome	29.78	756.4	29.95	760.7	80.8	27.1	52	W	17.4	7.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.77	756.2	29.97	761.1	86.9	30.5	28	SW	.....	.....	4	.....	5	SW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	87.8	31.0	32	SSW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.72	755.0	29.91	759.7	81.1	27.3	68	S	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.11	739.3	29.94	760.5	96.1	35.6	49	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.75	755.6	29.99	761.8	84.7	29.3	37	ESE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.80	757.0	29.88	758.9	89.2	31.8	47	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.42	747.3	29.98	761.4	86.2	30.1	26	SSW	0	0	.....	.....	9	W	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,246.4 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 461 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.53	750.0	29.73	755.1	72.7	22.6	93	WSW	1.0	0.4	.....	.....	10n;s	.....	.....	.....	.....	Rainy	.....
Tokei (Yeddo)	29.60	751.8	29.66	753.3	74.0	23.3	92	SW	3.0	1.3	.....	.....	10s	.....	.....	0.570	14.48	Cloudy	The Observatory.
Tokei (Yeddo) University	29.53	750.0	29.62	752.4	74	23.3	95	Calm	0	0	.....	9cs	.....	.....	.....	0.01	0.3	Cloudy	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	60.8	16.0	85	SE	1.8	0.8	.....	6ck	0	.....	.....	2.06	52.4	Fair	L. Castillo, A. E.
Guadalajara	25.08	637.0	30.04	762.9	58.6	14.8	90	S	0.9	0.4	.....	0	10	.....	.....	1.70	43.2	Covered	Prof. L. Perez.
Guanajuato	23.71	602.4	29.92	760.1	61.5	16.4	89	Calm	0	0	.....	0	5	.....	.....	0	0	½ cloudy	Prof. V. Fernandez
Leon	.....	.....	.....	.....	63.0	17.2	88	SE	0.9	0.4	.....	1c	1k	ENE	.....	0.51	12.9	Clear	Prof. M. Leal.
Mexico	23.11	586.9	30.09	764.3	58.1	14.5	87	NE	0.9	0.4	.....	0	9k	.....	SE	0.04	1.1	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Tabellon, (Aguascalts)	.....	.....	.....	.....	59.5	15.3	92	Calm	0	0	.....	0	10n	.....	.....	0.39	9.8	Rainy	M. V. de Leon, M. E.
Puebla	23.37	593.5	30.02	762.4	55.6	13.1	85	NE	2.9	1.3	.....	4ck	2cs	.....	.....	0.02	0.5	Cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.03	760.2	29.94	760.5	77.0	25.0	87	W	0.9	0.4	.....	0	6n	.....	.....	0	0	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.23	614.7	30.14	765.6	62.6	16.7	82	E	0.9	0.4	.....	0	8n	.....	E	0.02	0.6	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.07	761.8	30.00	762 0	78.8	26.0	84	Calm	0	0	.....	5c	4k	.....	.....	0 22	5.6	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	NNE	5.1	2.3	.....	0	10	.....	.....	.....	.....	Overcast	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.90	592.0	30.04	763.0	54.1	12.8	83	NW	2.2	1.0	.....	0	3	.....	Calm	0.03	0.8	Clear	Prof. P. Spina. [M.M. D. D
Morelia	.....	.....	.....	.....	64.4	18.0	58	S	0.9	0.4	.....	0	10k	.....	.....	0.89	22.7	Covered	M. Tena, F. L. Paramo,
Durango	24.28	616.8	30.10	764.5	65.6	18.8	91	Calm	0	0	.....	0	10kn	.....	.....	0.45	11.4	Covered	M. V. de Leon, C. E.
Colima	28.36	720.0	29.97	761.2	78.8	26.0	80	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Covered	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,881 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749 3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.3 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,232.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,165 m., or 7,063.9 ft; Toluca, 2,635 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Ilushing	29.85	758.2	29.85	758.2	61.5	16.4	.....	W	.....	.....	5	.....	.....	.....	.....	0	0	.....	
Groningen	29.65	753.2	29.71	754.6	59.6	15.3	.....	W	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Helder	29.72	755.0	29.72	755.0	59.2	15.1	.....	W	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Hellevoetsluis	29.79	756.6	29.79	756.6	60.3	15.7	76	W	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.75	755.7	29.80	756.9	59.5	15.3	76	WSW	.....	.....	4	.....	8	.....	.....	0.114	2.9	Very cloudy	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 1—10.	Clouds. Amount. Up'er. 1—10.	Clouds. Amount. Low'r. 1—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.48	748.7	29.53	750.1	61.2	16.2	69	NW	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.59	751.5	29.63	752.5	61.5	16.4	58	N	9	4	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.40	746.7	29.54	750.3	56.8	13.8	84	ENE	9	4	.....	.....	10	.....	.....	0.100	2.7	Light rain...	
Tromsö	29.65	753.1	29.69	754.2	60.1	15.6	51	NE	9	4	.....	.....	1	.....	.....	0	0	.....	

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.21	767.2	30.39	772.0	74.5	23.6	81	ENE	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.2	29.98	761.5	91.0	32.8	25	E	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.06	763.5	30.15	765.7	75.2	24.0	73	SW	5.6	2.5	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.02	762.6	84.4	29.1	37	NNE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.31	769.8	30.38	771.6	73.8	23.2	76	NE	15.4	6.9	.....	.....	4	.....	.....	0	0	.....	

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

Naval Series. Vessels.															Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	29.89	759.3	71.2	21.8	.....	NW	.....	.....	1	.....	1	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.12	765.0	77.9	25.5	.....	NE	.....	.....	3	.....	0	.....	2	NE	Blue sky.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.95	760.7	86.0	30.0	.....	S	.....	.....	2	.....	8	.....	Calm	2	SW	D. clouds....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.89	759.2	70.3	21.3	.....	NW	.....	.....	1	.....	1	.....	1	.....	Blue sky.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.26	743.1	29.67	753.6	60.8	16.0	67	WNW	11	5	.....	.....	10ks	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.12	739.7	29.53	750.1	60.8	16.0	83	SW	2	1	.....	.....	10	.....	.....	.....	Raining.....	Astronomical Obs.
Dorpat	29.18	741.2	29.42	747.2	62.1	16.7	70	SSW	7	3	.....	.....	10n	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.38	746.2	29.39	746.6	57.2	14.0	75	E	11	5	.....	.....	9nk	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.08	738.5	29.69	754.0	70.0	21.1	74	SW	4	2	.....	.....	10k	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.84	757.9	29.91	759.7	79.9	26.6	45	S	22	10	.....	.....	7cs	.....	.....	.....	.....	Kurdakof.
Kertch	29.96	761.0	29.98	761.5	76.6	24.8	51	NW	9	4	.....	.....	0	.....	.....	.....	.....	Lagorio.
Moscow	29.09	738.8	29.61	752.1	67.5	19.7	55	SSW	9	4	.....	.....	8ks	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.58	751.2	29.77	756.2	76.5	24.7	39	WSW	18	8	.....	.....	6ks	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.49	749.1	29.51	749.6	71.6	22.0	83	NNE	4	2	.....	.....	7cs	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.48	723.3	29.81	757.2	84.4	29.1	36	NW	18	8	.....	.....	3k	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.35	758.3	29.77	756.2	82.6	28.1	24	NW	13	6	.....	.....	4s	.....	.....	.....	Light clouds	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.06	738.1	29.32	744.7	61.9	16.6	93	NNW	4	2	.....	.....	10	.....	.....	.....	Raining	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.48	723.3	29.35	745.6	79.2	26.2	37	W	9	4	.....	.....	7ck,ks	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.49	749.1	29.71	754.6	91.9	33.3	34	WNW	4	2	.....	.....	1k	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.16	715.2	29.74	755.3	88.7	31.5	51	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Michelson.
Barnaul	28.97	735.9	29.47	748.5	69.3	20.7	48	S	4	2	.....	.....	10	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.08	738.6	29.35	745.5	75.6	24.2	71	SSW	2	1	.....	.....	5	.....	.....	Blank	Blank	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.35	745.6	29.50	749.2	88.2	31.2	36	S	2	1	.....	.....	2cs	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.90	759.4	30.00	762.0	83.3	28.5	58	S	4.5	2.00	.....	0	.....	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.17	766.2	30.22	767.6	72.3	22.4	62	NW	2.7	1.20	.....	8	5	N	.....	0.154	3.9	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.22	691.5	.....	.....	67.6	19.8	54	NE	6.9	3.07	.....	.....	5	.....	.....	0	0	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.4	29.96	760.9	84.9	29.4	31	NW	7.4	3.33	.....	0	7	.....	.....	0	0	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.89	759.1	30.03	762.7	89.6	32.0	46	SE	2.6	1.14	.....	1	3	NE	.....	0	0	Clouds.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.27	743.4	30.14	765.6	70.2	21.2	58	NE	22.4	10.00	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.91	759.8	29.98	761.4	84.0	28.9	69	NNE	7.4	3.3	.....	1c	2k	SW	NE	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.3	29.99	761.7	88.9	31.6	36	ESE	22.5	10.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.4	29.99	761.7	83.5	28.6	83	E	8.7	3.89	.....	3k	3k	E	E	0.059	1.50	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'rs

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'r 0–10.	Low'r 0–10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Haparanda	29.62	752.3	29.66	753.3	56.5	13.6	.....	NE	.....	.....	2	.....	8	.....	.....	0.039	1.0	.....	
Umea	29.56	750.7	29.61	752.0	56.5	13.6	71	NNE	.....	.....	6	.....	6	.....	.....	0	0	.....	
Hernosand	29.36	745.7	29.41	747.0	60.6	15.9	64	NE	.....	.....	6	.....	5	.....	.....	0.087	2.2	.....	
Stockholm	29.31	744.4	29.49	749.1	55.4	13.0	85	N	.....	.....	4	.....	10	.....	.....	0.193	4.9	.....	
Wisby	29.45	748.0	29.51	749.5	56.8	13.8	71	NNE	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.42	747.2	29.49	749.1	53.2	11.8	93	N	12.8	5.7	.....	.....	10	.....	NNE	0.074	1.88	Raining	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.61	726.8	30.00	761.9	68.5	20.5	56	SSW	.....	.....	3	.....	9	.....	.....	0.043	1.1	Covered	The Observatory.
Zurich	28.38	720.8	30.00	762.0	58.3	14.6	93	W	.....	.....	2	.....	10	.....	.....	0.598	15.2	Rainy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.7 mm.; Thermometer, —2.0 cent.; Relative Humidity, +3 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.96	761.0	87.8	31.0	37	E	9	4.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.5	90.1	32.3	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.61	752.1	29.72	755.0	86.9	30.5	61	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.94	760.5	30.01	762.2	63.0	17.7	62	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.91	759.7	30.21	767.3	67	19.4	.....	N	1	0.4	.....	0	2s	.....	N	0.60	15.2	Clear	W. R. Bigg.
*Chatham, N B	29.97	761.2	30.03	762.7	63	17.2	72	NW	11	4.9	.....	2k	0	NW	.....	0.83	21.1	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.93	760.2	29.97	761.2	61	16.1	88	N	10	4.5	.....	.....	10n	.....	Calm	0.020	0.51	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.97	761.2	30.16	766.1	64.7	18.2	75	NE	.....	.....	3	1k	0	.....	.....	0.494	12.55	Clear	James Smith, M. A.
Dalhousie, N. B	30.01	762.2	30.05	763.3	61	16.1	70	W	.....	.....	2	.....	.....	.....	.....	0.72	18.3	Clear	H. A. Johnson.
Esquimault, B. C	29.80	756.9	29.85	758.2	54.2	12.3	100	S	.....	.....	.....	10cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.08	764.0	30.10	764.5	51	10.6	81	SW	9	4.0	.....	2k	0	N	.....	0.43	10.9	Clearing	J. McWilliams.
Fredericton, N. B	30.03	762.7	30.09	764.3	62.0	16.7	68	NW	8	3.6	.....	1k	d	NW	NW	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.18	741.2	29.98	761.5	62	16.7	85	SE	9	4.0	.....	0	2ks	.....	S	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.11	739.4	30.17	766.3	69	20.6	85	S	...	...	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.81	757.2	29.94	760.6	68	20.0	80	NW	10	4.5	.....	2ck	5ks	.....	NW	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.86	758.4	30.21	767.3	72.7	22.6	79	E	.....	.....	3	4c	0	W	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.79	756.7	29.82	757.4	56	14.4	88	SW	.....	.....	4	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.87	758.7	30.19	766.8	67	19.4	69	N	12	5.4	.....	2ck	0	NW	.....	Inap.	Inap.	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.82	757.4	29.86	758.4	75.0	23.9	.....	SW	6	2.7	.....	4k	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.99	761.7	30.19	766.8	65	18.3	53	W	9	4.0	.....	0	2ks	.....	.....	0.07	1.8	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.54	750.3	30.22	767.6	61	16.1	92	E	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy	Rev. R. Mosley.
Peterboro, Ontario	29.55	750.6	30.26	768.6	74.7	23.7	81	W	.....	.....	2	0	8u	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.52	749.8	30.18	766.6	71	21.7	85	Calm	0	0	.....	5ck	0	NW	.....	0.03	0.8	Fair	H. Morgan.
Port Hastings, N. S	29.96	761.0	30.00	762.0	64.4	18.0	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.55	750.6	30.18	766.6	68	20.0	94	E	4	1.8	.....	.....	10ck	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.85	758.2	30.16	766.1	61	16.1	61	E	.....	.....	1	0	0	.....	.....	0.08	2.0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.80	756.9	30.25	768.3	62	16.7	74	NE	2	0.9	.....	0	0	.....	.....	0.09	2.3	Clear	W. H. McIntyre.
St. Andrews, N. B	30.04	763.0	30.09	764.3	65	18.3	63	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.88	758.9	30.04	763.0	65	18.3	78	NW	12	5.4	.....	0	7	.....	.....	0	0	Fine	G. Murdock, C. E.
*Saugeen, Ontario	29.49	749.0	30.18	766.6	67	19.4	85	SE	5	2.2	.....	.....	10ks	.....	S	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.42	747.3	30.17	766.8	70	21.1	79	E	4	1.8	.....	5ck	0	W	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	29.92	734.6	30.15	765.8	68.8	20.4	84	SE	5	2.2	.....	0	8s	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.86	758.4	29.89	759.2	70	21.1	72	NW	11	4.9	.....	0	2ks	.....	NW	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.84	757.9	30.21	767.3	70	21.1	78	E	6	2.7	.....	6c	0	W	.....	Inap.	Inap.	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	62.0	16.7	94	SW	.....	.....	.....	5k	5s	.....	.....	0.01	0.3	Cloudy	John Delany.

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

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.91	759.7	30.13	765.3	71	21.7	75	NW	1	0.4	.....	1ck	0	W	.....	1.02	25.9	Clear	
Alpena, Michigan	29.50	749.3	30.13	765 3	64	17.8	89	E	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Atlantic City, New Jersey	30.09	764.3	30.11	764.8	71	21.7	90	S	2	0.9	.....	0	Fog	.....	Calm	0.29	7.4	Fair	
Augusta, Georgia	29.99	761.7	30.16	766.1	80	26.7	78	Calm	0	0	.....	.....	10s	.....	E	0	0	Cloudy	
Baltimore, Maryland	30.08	764.0	30.13	765.3	82	27.8	60	NE	8	3.6	.....	2k	Haze	NE	Calm	0	0	Fair	
Barnegat, New Jersey	30.11	764.8	30.14	765.5	71	21.7	79	SE	4	1.8	.....	2c	Fog	W	Calm	0.71	18.0	Fair	
Bismarck, Dakota	27.98	710.7	29.83	757.7	68	20.0	90	E	16	7.2	.....	.....	10s	.....	E	0	0	Cloudy	
BoiseCity, Idaho	27.05	687.1	29.93	760.2	57	13.9	64	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.98	761.5	30.13	765.3	72	22.2	67	NW	4	1.8	.....	8ck	0	NW	.....	0.21	5.3	Fair	
Brackettville, Texas	28.87	733.3	29.75	755.6	78	25.6	78	SE	3	1.3	.....	0	2s	.....	SE	0	0	Clear	
Breckenridge, Minnesota	28.85	732.8	29.80	756.9	68	20.0	95	E	15	6.7	.....	.....	10ks	.....	SE	0.08	2.0	Cloudy	
Brownsville, Texas	29.92	760.0	29.99	761.7	76	24.4	95	Calm	0	0	.....	5c	0	Calm	.....	0.26	6.6	Fair	
Buffalo, New York	29.49	749.0	30.16	766.1	73	22.8	67	NE	1	0.4	.....	1k	Sm'e	Calm	Calm	1.00	25.4	Clear	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	44	SE	.....	.....	1	5ck	5s	Calm	SE	0	0	Cloudy	
Burlington, Vermont	29.91	759.7	30.16	766.1	64	17.8	78	N	8	3.6	.....	8k	0	W	.....	0.10	2.5	Cloudy	
Cairo, Illinois	29.76	755.9	30.13	765.3	84	28.9	75	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	69	20.6	80	N	.....	.....	1	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	73	22.8	63	Calm	.....	.....	0	2ck	5s	S	Calm	0	0	Cloudy	
Camp Verde, Arizona	26.75	679.4	30.24	768.1	80	26.7	59	S	.....	.....	1	.....	10s	.....	S	0	0	Cloudy	
Campo, California	27.37	695.2	29.94	760.5	35	1.7	80	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.21	767.3	80	26.7	74	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	30.11	764.8	30.14	765.5	78	25.6	73	SW	18	8.0	.....	5c	Haze	SW	Calm	0	0	Fair	
Cape Lookout, N. Carolina	30.19	766.8	30.20	767.1	83	28.3	71	SW	4	1.8	.....	2k	0	SW	.....	0	0	Fair	
Cape May, New Jersey	30.10	764.5	30.12	765 0	76	24.4	81	Calm	0	0	.....	2c	0	W	.....	0	0	Fair	
Charleston, South Carolina	30.13	765.3	30.20	767.1	81	27.2	78	NE	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.10	612.1	30.04	763.0	58	14.4	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.44	747.8	30.11	764.8	68	20.0	90	NE	5	2.2	.....	.....	10s	.....	NE	0.30	7.6	Cloudy	
Cincinnati Ohio	29.46	748.3	30.08	764.0	80	26.7	82	SE	1	0.4	.....	0	Fog	.....	Calm	0.02	0.5	Clear	
Cleveland, Ohio	29.47	748.5	30.18	766.6	68	20.0	90	E	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Columbus, Ohio	29.36	745.7	30.12	765.0	77	25.0	73	Calm	.....	.....	0	5c	0	Calm	.....	Inap.	Inap.	Fair	
Corpus Christi, Texas	28.09	713.5	29.69	754.1	75	23.9	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.59	751.6	30.05	763.3	74	23.3	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Davenport, Iowa	29.44	747.8	30.05	763.3	72	22.2	80	E	12	5.4	.....	7cs	Haze	SW	Calm	0.01	0.3	Fair	
Denison, Texas	29.25	742.9	30.01	762.2	80	26.7	78	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.83	630.7	30.05	763.3	60	15.6	65	S	4	1.8	.....	8c	0	Calm	.....	0.01	0.3	Fair	
Detroit, Michigan	29.48	748.8	30.12	765.0	71	21.7	85	W	1	0.4	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Dodge City, Kansas	27.39	695.7	29.55	750.6	76	24.4	69	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.33	745.0	30.00	762.0	71	21.7	85	SE	7	3.1	.....	.....	10ks	.....	SE	2.25	57.1	Cloudy	
Duluth, Minnesota	29.38	746.2	30.04	763.0	60	15.6	82	NE	12	5.4	.....	.....	10s	.....	NE	0	0	Cloudy	
Eagle Pass, Texas	29.26	743.2	29.95	760.7	78	25.6	86	Calm	0	0	.....	5k	0	E	.....	0	0	Fair	
Eastport, Maine	29.99	761.7	30.06	763.5	61	16.1	71	NW	18	5.8	.....	8c	0	Calm	.....	0.05	1.3	Fair	
El Paso, Texas	.....	.....	.....	.....	83	28.3	52	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.47	748.3	30.15	765.8	75	23.9	68	Calm	0	0	.....	8ck	0	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.48	748.8	30.13	765.3	61	16.1	77	NE	4	1.8	.....	10cs	0	NE	.....	0.06	1.5	Cloudy	
Florence, Arizona	.....	.....	.....	.....	82	27.8	67	Calm	.....	.....	0	.....	10ks	.....	S	0.02	0.5	Cloudy	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.23	640.8	30.19	766.8	72	22 2	67	W	4	1.8	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Smoky	
Fort Gibson, Indian Ter	29.51	749.5	30.02	762.5	82	27.8	79	SE	4	1.8	.....	2k	0	S	.....	0	0	Clear	
Fort Griffin, Texas	28.76	730.5	29.98	761.5	73	22.8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.84	732.5	29.99	759.4	75	23.9	85	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.97	761.2	30.01	762.2	81	27.2	91	NE	4	1.8	.....	2k	5ks	E	E	0 17	4.3	Fair	
Grand Haven, Michigan	29.48	748.8	30.12	765.0	67	19.4	89	SE	5	2.2	.....	.....	10n	.....	Calm	0.45	11.4	Light rain	
Indianapolis, Indiana	29.34	745.2	30.08	764.0	81	27.2	74	SE	3	1.3	.....	8cs;ck	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.98	761.5	30.00	762.0	82	27.8	83	NE	13	5 8	.....	1cs	2s	Calm	E	0	0	Fair	
Jacksboro, Texas	28.92	734.6	29.99	761.7	80	26.7	74	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.09	764.3	30.11	764.8	78	25.6	86	Calm	0	0	.....	8k	0	E	.....	0.25	6.3	Clearing	
Keokuk, Iowa	29.38	746.2	29.95	760.7	83	28.3	71	S	5	2.2	.....	2k	5s	NW	Calm	0	0	Fair	
Key West, Florida	29.95	760.7	29.98	761 5	82	27.8	71	NE	12	5.4	.....	1k	0	NE	.....	0	0	Clear	
Kittyhawk, North Carolina	30.17	766.3	30.20	767.1	79	26.1	78	W	12	5.4	.....	8cs	0	S	.....	0	0	Fair	
Knoxville, Tennessee	29.18	741.2	30.14	765.5	77	25.0	82	NE	2	0.9	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
La Crosse, Wisconsin	29.27	743.4	29.97	761.2	71	21.7	90	S	4	1.8	.....	.....	10n	.....	Calm	0.30	7.6	Heavy rain	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	69	20.6	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.57	751.1	29.89	759.2	81	27.2	87	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.77	629.2	.....	.....	61	16.1	60	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.12	739.6	29.91	759.7	77	25.0	91	S	5	2.2	.....	10cs	0	N	.....	0	0	Cloudy	
Los Angeles, California	29.53	750.0	29.87	758.7	53	11.7	80	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.56	750.8	30.09	764.3	81	27.2	74	W	1	0.4	.....	c	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.45	748.0	30.09	764.3	83	28.3	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.45	748.0	30.14	765.5	61	16.1	82	E	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy	
Mason, Texas	28.36	720.3	30.03	762.7	77	25.0	90	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Memphis, Tennessee	29.81	757.2	30.11	764.8	82	27.8	78	E	2	0.9	.....	0	Haze	.....	Calm	0.15	3.8	Clear	
Milwaukee, Wisconsin	29.38	746.2	30.09	764.3	66	18.9	95	SW	4	1.8	.....	.....	10n	.....	.....	0.54	13.7	Light rain	
Mobile, Alabama	30.06	763.5	30.11	764.8	81	27.2	85	SE	6	2.7	.....	0	8s	.....	SE	0.22	5.6	Fair	
Montgomery, Alabama	29.87	758.7	30.10	764.5	79	26.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	29.13	739.9	30.15	765.8	75	23.9	77	N	3	1.3	.....	2c	5s	Calm	NW	0	0	Fair	
Mt. Washington, N. H.	23.96	608.6	30.32	770.1	45	7.2	100	NW	30	13.4	.....	.....	Fog	.....	NW	0.17	4.3	Foggy	
Nashville, Tennessee	29.62	752.3	30.12	765.0	84	28.9	71	SE	2	0.9	.....	Haze	0	Calm	.....	Inap.	Inap.	Clear	
New Haven, Connecticut	30.01	763.0	30.15	765.8	77	25.0	69	NE	6	2.7	.....	5ck	0	.....	.....	0.41	10.4	Fair	
New London, Connecticut	30.10	764.5	30.14	765.5	77	25.0	65	N	4	1.8	.....	5ck	0	W	.....	Inap.	Inap.	Fair	
New Orleans, Louisiana	30.01	762.0	30.06	763.5	83	28.3	79	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.07	763.8	30.12	765.0	73	22.8	67	NE	7	3.1	.....	4k	0	SW	.....	0	0	Fair	
New York, New York	29.99	761.7	30.16	766.1	78	24.4	64	NE	14	6.3	.....	3c;cs	Haze	W;Calm	.....	0.02	0.5	Fair	
Norfolk, Virginia	30.09	764.3	30.15	765.8	85	29.4	64	SW	9	4.0	.....	5cs	Haze	Calm	.....	0	0	Fair	
North Platte, Nebraska	26.99	685.5	29.42	747.3	69	20.6	90	NW	10	4.5	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Olympia, Washington Ter.	29.88	758.9	29.92	760.0	55	12.8	80	SW	4	1 8	.....	.....	10s	.....	SW	0.09	2.3	Cloudy	
Omaha, Nebraska	28.76	730.5	29.76	755.9	77	25.0	88	S	8	3.6	.....	.....	10s	.....	Calm	0.42	10.7	Cloudy	
Oswego, New York	29.85	758.2	30.17	766.3	70	21.1	75	E	7	3.1	.....	8k	0	NW	.....	0.04	1.0	Fair	
Pembina, Dakota	29.12	739.6	29.91	759.7	62	16.7	83	SE	11	4.9	.....	.....	10s	.....	SE	0	0	Cloudy	
Philadelphia, Pennsylvania	30.09	764.3	30.14	765.5	77	25.0	69	NE	10	4.5	.....	2cs	0	NW	.....	0.41	10.4	Clear	
Phœnix, Arizona	28.60	726.4	.....	.....	85	29.4	20	W	.....	.....	1	0	0	.....	.....	0.01	0.3	Clear	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	38	3.3	45	SW	16	7.2	.....	2k	2s	SW	SW	0	0	Fair	
Ploche, Nevada	24.05	610.9	29.82	757.4	55	12.8	12	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.37	746.0	30.16	766.1	68	20.0	95	NW	4	1.8	.....	2c	Fog	NW	Calm	0.42	10.7	Fair	
Port Huron, Michigan	29.48	748.8	30.12	765.0	71	21.7	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.04	763.0	30.09	764.3	72	22.2	62	N	2	0.9	.....	2k	Haze	W	.....	0.06	1.5	Fair	
Portland, Oregon	29.92	760.0	30.02	762.5	53	14.4	69	E	4	1.8	.....	.....	10ks	.....	SW	0.01	0.3	Cloudy	
Prescott, Arizona	24.80	629.9	30.16	766.1	68	20 0	60	Calm	.....	.....	0	.....	10ks	.....	S	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.01	762.2	30.03	762.7	78	25.6	69	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.54	750.3	29.90	759.4	62	16.7	72	SE	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Rochester, New York	29.59	751.6	30.18	766.6	71	21.7	75	NE	7	3.1	.....	0	5s	.....	NE	0.16	4.1	Fair	
Roseburg, Oregon	29.45	748.0	30.01	762.2	66	18.3	78	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.80	756.9	29.88	758.9	67	19.9	87	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.52	749.8	30.00	762.5	82	27.8	75	S	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
St. Marks, Florida	30.09	764.3	30.10	764.5	78	25.6	86	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.08	738.6	29.87	758.7	70	21.1	90	SE	5	2.2	.....	.....	10n	.....	Calm	0.31	7.9	Light rain	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	66	18.9	11	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.83	745.0	29.89	759.2	77	25.0	86	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.82	757.4	29.89	759.2	63	17.2	83	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.51	749.5	30.16	766.1	74	23.3	76	S	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.12	765.0	30.15	765.8	73	22.8	81	NE	7	3.1	.....	5ck	Sm'e	NW	Calm	0	0	Fair	
San Francisco, California	29.86	758.4	29.93	760.2	54	12.2	97	W	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	61	16.1	55	N	4	1.8	.....	5cs	0	Calm	.....	Inap.	Inap.	Fair	
Savannah, Georgia	30.07	763.8	30.16	766.1	80	26.7	82	N	2	0.9	.....	5ck	0	Calm	.....	0.09	2.3	Fair	
Shreveport, Louisiana	29.86	758.4	30.07	763.8	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	
Silver City, New Mexico	24.32	617.7	30.27	768.8	66	18.8	68	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.17	766.3	30.21	767.3	79	26.1	82	S	2	0.9	.....	0	1ks	.....	Calm	0	0	Clear	
Springfield, Massachusetts	29.95	760.7	30.08	764.0	75	23.9	68	E	1	0.4	.....	5ck	0	W	.....	0.14	3.6	Fair	
Stockton, Texas	26.94	684.3	29.94	760.5	70	21.1	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.08	764.0	30.13	765.3	68	20.0	79	N	4	1.8	.....	8c;k	0	NW	.....	0.72	18.3	Fair	
Toledo, Ohio,	29.48	748.8	30.12	765.0	75	23.9	77	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tucson, Arizona	27.38	695.4	29.93	760.2	78	25.6	69	S	.....	.....	1	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Tybee Island, Georgia	30.11	764.8	30.14	765.5	82	27.8	75	E	10	4.5	.....	2cs	2ks	Calm	E	0	0	Fair	
Umatilla, Oregon	29.58	751.3	.....	.....	59	15.0	48	SW	16	7.2	.....	5k	0	W	.....	0	0	Fair	
Vicksburg, Mississippi	29.86	758.4	30.11	764.8	80	26.7	82	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.19	614.4	29.67	753.6	54	12.2	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.56	750.8	29.93	760.2	59	15.0	76	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.03	762.7	30.14	765.5	81	27.2	67	N	5	2.2	.....	2c	0	Calm	.....	0.10	2.5	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	68	20.0	.....	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.11	764.8	30.19	766.8	78	25.6	82	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.57	649.5	29.93	760.2	51	10.6	34	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.07	763.8	30.12	765.0	74	23.3	72	N	4	1.8	.....	0	2s	.....	.....	0	0	Clear	
Yankton, Dakota	28.56	725.4	29.78	756.4	71	21.7	87	SE	8	3.6	.....	5cs	0	W	.....	0.58	14.7	Fair	
Yuma, Arizona	29.43	747.5	29.59	751.6	79	26.1	65	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.93	760.2	29.98	761.5	64.0	17.8	78	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.94	760.5	29.96	761.0	84	28.9	70	NE	3.6	1.6	.....	4k	0	NE	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	81	27.2	91	SE	7	3.1	.....	5c	2n	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I.	29.87	758.7	29.95	760.7	83	28.3	.....	E	11.7	5.2	.....	.....	.....	.....	.....	0.48	12.2	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	29.99	761.7	29.99	761.7	83	28.3	83	E	.....	.....	2	3c	6k	E	.....	0.030	0.76	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herrar.
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	63.5	17.5	87	Calm	0	0	.....	.....	10n	.....	.....	0.23	5.8	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Bracketsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m. Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.3 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.8 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,500 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.89	759.2	59	15.0	56	13.3	90	WSW	20	8.9	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Navy Yard, Pensacola, Fla.	30.25	768.3	82	27.8	82	27.8	79	ENE	9	4.0	.....	.....	2	.....	SE	1.43	36.3	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.30	769.6	81	27.2	83	28.3	63	SW	1	0.4	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	29.65*	753.1*	76.5	24.7	75	23.9	88	W	.....	.....	2	.....	10k;ks	.....	W	Slight	Slight	.....	.....	Cloudy	
Alliance, Havre, France	30.02‡	762.5‡	.....	.....	65	18.3	84	NNW	.....	.....	4–5	.....	10	.....	WNW	.....	.....	Light	N&W	Squally	
Ashuelot. Nagasaki, Japan	29.79	756.7	76	24.4	75	23.9	100	NE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Alaska, N. 6° 12′, W. 30° 40′	30.10	764.5	80	26.7	80	26.7	87	S	.....	.....	3	.....	7	.....	SW	.....	.....	Long	S	Cloudy.	
Canonicus, New Orleans, La.	30.13	765.3	57	13.9	81	27.2	87	ESE	.....	.....	2	.....	4	.....	.....	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.	30.16‡	766.1‡	.....	.....	76	24.4	68	NE	8	3.6	.....	.....	5	.....	WNW	0	0	.....	.....	Hazy	
Constellation, N. 39° 54′, W. 73° 56′	30.22‡	767.6‡	.....	.....	74	23.3	86	ENE	.....	.....	1	.....	5	.....	E	.....	.....	Smooth	.....	Fair	
Constitution, Havre, France	29.97‡	761.2‡	.....	.....	61	16.1	94	W	.....	.....	4	.....	9	.....	W	.....	.....	.....	.....	Threatening	
Despatch, Prince's Islands, Sea of Marmora	29.94‡	760.5‡	.....	.....	80	26.7	70	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.96‡	761.0‡	.....	.....	76	24.4	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Franklin, Norfolk, Va.	30.29	769.4	81	27.2	79	26.1	78	SW	8	3.6	.....	.....	5	.....	S	0	0	.....	.....	Clear	
Gettysburg Alexandria, Egypt	29.74‡	755.4‡	.....	.....	81	27.2	96	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Guard, Rio de Janeiro, Brazil	30.23	767.8	72	22.2	75	23.9	77	NE	.....	.....	1	.....	2	.....	NE	.....	.....	.....	.....	Hazy	
Hartford, Rio de Janeiro, Brazil	30.19	766.8	.....	.....	72	22.2	80	W	6	0 2.7	.....	.....	5	.....	.....	0	0	.....	.....	Fair	
Marion, Villefranche, France	29.86	758.4	76	24.4	78	25.6	69	E	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.	29.70	754.4	75	23.9	73	22.8	76	SE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Cloudy	
Monocacy. Yokohama, Japan	29.65‡	753.1‡	.....	.....	77	25.0	82	SW	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.36†	771.1†	.....	.....	81	27.2	78	E	7	3.1	.....	.....	8	.....	E	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.19†	766.8†	.....	.....	61	16.1	88	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	29.67	753.6	91	32.8	84	28.9	87	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	.....	
Pensacola, Mare Island, California	30.02	762.5	62	16.7	57	13.9	94	WSW	8	3.6	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Plymouth. New York, N. Y.	30.15†‡	765.8†‡	.....	.....	75	23.9	72	NE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Ranger. Hong-Kong, China	29.92*	760.0*	.....	.....	86	30.0	83	Calm	.....	.....	0	.....	1	.....	Calm	.....	.....	.....	.....	D. clouds	
Rio Bravo, Brownsville, Texas	29.94	760.5	76	24.4	76	24.4	95	NW	.....	.....	1	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	30.12‡	765.0‡	.....	.....	79	26.1	74	N	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Fair	
St. Louis, League Island, Pa	30.06	763.5	79	26.1	79	26.1	74	NE	7	3.1	.....	.....	5	.....	SW	0.18	4.6	.....	.....	Fair	
Supply, Havre, France	30.05	763.3	63	17.2	62	16.7	77	NW	.....	.....	4–5	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	30.11‡	764.8‡	.....	.....	73	22.8	95	NW	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair	
Trenton, Leghorn, Italy	29.89‡	759.2‡	.....	.....	75	23.9	90	SSE	.....	.....	0	.....	5	.....	S	0.2	5.	.....	.....	Cloudy	
Tuscarora, N. 17° 13′, W. 100° 25′	29.70	754.4	80	26.7	81	27.2	96	NE	.....	.....	1	.....	8	.....	SE	0.4	10.	.....	.....	Fair	
Vandalia, N. 35° 38′ E. 29° 03′	29.76‡	755.9‡	.....	.....	85	29.4	72	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.09‡	764.4‡	.....	.....	70	21.1	75	NW	6	2.7	.....	.....	5	.....	Calm	0.24	6.1	.....	.....	Fair	
Wyoming, N. 52° 09′, W. 34° 14′	29.68	753.9	66	18.9	55	12.8	100	WSW	.....	.....	4	.....	8	.....	WSW	.....	.....	Long	WSW	D. clouds	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Alaska																			
S. S. China, N. 25° 48', E. 120° 28'		29.80*	756.9*	83	28.3	100	SSW			5		4		SW	0	Mod'ate	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 46° 40', W. 124° 50'		30.01*	762.2*				SE			1		10				Mod'ate	WSW	Overcast	Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Alaska																			
S. S. China, N. 25° 48', E. 120° 28'		29.80*	756.9*	83	28.3	100	SSW			5		4		SW	0	Mod'ate	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 46° 40', W. 124° 50'		30.01*	762.2*				SE			1		10				Mod'ate	WSW	Overcast	Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, New York, N. Y.		30.05*	763.3*	79	26.1		Calm			0				NW	2 hours			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 48° 59', W. 56° 16'		30.08†	764.0†	61	16.1	82	SW			5		10			0	None		Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, Yokohoma, Japan		29.72*	754.9*	82	27.8	83	S			5		8		Var.	Blank			Gloomy	Capt. W. H. Kidley.
S. S. Oceanic, N. 33° 30', E. 136° 30'		29.55	750.6	47	8.3	92	WNW			4		7		WNW			WSW	D. clouds	Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 46° 33', W. 41° 37'		30.16	766.1	78.1	25.6	79	W			4		8		WNW	Blank		WNW	Cloudy	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, St. George's Channel		30.24*	768.1*	60	15.6	88	NNW			8		7		WNW	0			Cloudy	Captain Sargent.
S. S. Ohio; Philadelphia, Pa		30.12	765.0	77	25.0	91	N			8		4		NNE	0			Clear	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.97†	761.2†	65	18.3	100	WNW			3		8		W	0			Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°, W. 66°		29.77*	756.1*	48.5	9.2	56	NE			2.5		10ks		S	0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 12, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.01	762.2	70.5	21.4	85	N			3		4			0	0	Cloudy	Dr. Ollive.
Nemours			30.00	762.1	77.7	25.4	77	NE			2		1			0	0	Very fair	Michel.
Algiers			29.94	760.5	80.2	26.8	67	ENE			3		6			0	0	Cloudy	Tourilliere.
La Calle			30.01	762.2	84.2	29.0	59	NNW			3		3			0	0	Pretty fair	Foufrede.
Tunis			29.99	761.8	89.2	31.8	50	E			6		0			0	0	Clear	Jacques.
Sfax			30.06	763.5	87.8	31.0		ENE			3		0			0	0	Clear	Gau.
Saida			30.05	763.3	95.0	35.0	24	N			1		0			0	0	Clear	Herbin.
Tebessa			30.05	763.2				SW			4		0			0	0	Clear	Watrin.
Geriville			30.10	764.5	94.1	34.5		S			6		4			0	0	Cloudy	Brugnlaux.
Laghouat			30.03	762.7	101.1	38.4	11	W			1		0			0	0	Clear	Bertrand.
Biskra			30.00	761.9	104.9	40.5		SE			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 899? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.34	745.1	29.86	758.5	72.0	22.2	60	NE			2		10			0.051	1.3	Raining	Prof. Ivan Stozu.
Cracow, I. R. Observatory	29.00	736.5	29.87	755.7	57.2	14.0	90	W			2		10			0.535	13.6		Dr. Wierzbiski.
Eperies	28.87	733.2	29.71	754.6	69.8	21.0	51	NW			2		9s			0.195	4.95		Julius Mikolik.
Gratz	28.64	727.5	29.85	758.3	68.2	20.1	81	S			2		7			0.150	3.80		Andreas Rospini.
Hermannstadt	28.41	721.7	29.78	756.3	60.8	21.0	53	NW			4		5			0	0		Prof. Reissenberg
Kremsmünster	28.56	725.5	29.88	759.0	59.4	15.2	83	WNW			3		10			0.228	5.8		Prof. C. Wagner
Lemberg	28.67	728.3	29.63	752.7	63.5	17.5	76	NW			2		9			0.035	0.9		Dr. T. Stanecki.
Pola	29.70	754.4	29.81	757.1	81.1	27.3	63	S			2		1k			0.067	1.7		I.R.Hydrographic Office
Szathmar	29.34	745.3	29.75	755.6	70.3	21.3	57	SW			3		8			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.74	755.3	29.84	757.9	74.5	23.6	54	E			1		8			0	0	Cloudy	P. Busin.
Vienna	29.16	740.7	29.86	758.4	63.5	17.5	65	W			4		10			0.067	1.7		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.49	723.6	29.98	761.4	60.1	15.6	69	WSW			4		10			0.091	2.3		Prof. M. Passau.
Brussels	29.71	754.6	29.91	759.6	62.4	16.9	68	W			4		10		W	0.004	0.10	Light rain	Royal Observatory
Furnes	29.92	760.0	29.95	760.6	61 0	16.1	74	W			2		9			0	0		M. E. de Cae
Maeseyck	29.78	756.4	29.91	759.6	61.7	16.5	83	NW			2		9			0	0		M. Pierrot.

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.77	756.1	29.86	758.4	61.6	16.4	.....	NW	16	7.2	.....	.....	3	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.86	758.4	29.88	758.9	62	16.7	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds.. ..	George Carrick.
Armagh, Observatory	.....	.....	29.92	760.0	57.5	14.2	.....	NNW	2	0.9	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.90	759.4	59.1	15.1	.....	WNW	11	4.9	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.92	760.0	59.4	15.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Raining.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.48	748.8	29.88	758.9	61.2	16.2	.....	W	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.95	760.7	29.98	761.5	83	28.3	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.90	759.4	61.5	16 4	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	H. Todd. [H.C.
Cardington	.....	.....	29.92	760.0	62.0	16.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	63.2	17.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Lt. W. G. Morris, R. E.
Dartmoor	28.54	724.9	30.00	762.0	57.0	13.9	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Showery....	Alexander Watt.
Donaghadee	29.88	758.9	29.90	759.4	59	15.0	.....	NW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.88	758.9	29.90	759.4	65	18.3	.....	WSW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.88	758.9	58.7	14.8	.....	NW	0.6	0.3	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Falmouth, Observatory	29.76	755.9	29.99	761.7	65.6	18.7	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier, (Natal)	27.66	702.6	29.95	760.7	76.0	24.4	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.82	757.4	30.05	763.3	73	22.8	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.84	758.4	60	15.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.96	761 0	30.01	762.2	77.0	25.0	.....	E	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.67	753 6	29.87	758.7	63.7	17.6	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	P. G. Maclean.
Great Yarmouth	29.88	758.9	29.88	758.9	61	16.1	.....	NNE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.74	755.4	29.91	759.7	65.6	18.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	29.76	755.9	29.98	761.5	61.5	16.4	.....	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	Showery	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.99	761.7	66	18.9	.....	NW	.....	.....	2	.....	8k	.....	.....	0.60	15.2	Fair	M. P. Moyle.
Holyhead	29.89	759.2	29.93	760.2	59	15.0	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds..	John Tilston.
Jersey	29.76	755.9	30.05	763.3	61.8	16.6	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.90	759.4	65.1	18.4	.....	NNW	5	2.2	.....	.....	9	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.91	759.7	29.94	760.5	60	15.6	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.90	759.4	60 0	15.6	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.81	757.2	29.88	758.9	88	31.1	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt A. H. C.
Nairn	29.79	756 7	29.88	758.9	67	19.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.06	763.5	86.0	30.0	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds..	C. S. Duncombe.
Nottingham, Observatory	29.72	754 9	29.90	759.4	64.1	17.8	.....	W	.....	.....	2	.....	10k	.....	W	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.38	746.2	29.90	759.4	59.6	15.3	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.91	759.7	64	17.8	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy.....	H.E. Bellamy.
Plymouth	29.90	759.4	29.98	761.5	64.4	18.0	.....	WSW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.90	759.4	29.95	760.7	66	18.9	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Misty.....	W. Kennedy.
Saint Ann's Head	29.77	756.1	29.93	760.2	58	14.4	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.87	758.7	56	13.3	.....	NW	22	9.8	.....	.....	2	.....	.....	.....	.....	D. clouds....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.74	755.4	85 2	29.6	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.. ..	Sergt. W. H. Lyne.
Sheffield	29.63	752.6	29.90	759.4	61.1	16.2	.....	WNW	.....	.....	3	.....	9	.....	.....	0	0	Overcast.....	W. F. Cooper.
Silloth Rectory	29.84	757.9	29.87	758.7	71.4	21.9	58	Calm	.....	.....	0	.....	3	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.50	749.3	29.90	759.4	67.2	14.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stornoway, Lewis (Hebr.)	29.88	758.9	29.92	760.0	68	14.4	.....	NNE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.71	754.6	29.92	760.0	67.3	19.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	D. clouds....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.89	759.2	61	16.1	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	30.01	762.2	65	18.3	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Drizzling....	W. Newcombe.
Valencia, Observatory	.....	.....	29.87	758.7	62.1	16.7	.....	SSW	19	8.5	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	30.22	767.6	50 0	10.0	93	NW	.....	.....	2	.....	4k	.....	.....	0.1	3.	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.00	762.0	30.19	766.7	73.0	22.8	77	ESE	20.5	9.2	.....	4	3	NNW	SE	1.50	38 1	Squally.....	C. Meldrum.
Melbourne, Observatory	30.05	763.3	30.14	765.5	42.2	5.7	90	SE	11	4.9	.....	.....	3	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach Lighthouse, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Uns, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 42° 15′ W. 58° 15′	.....	.....	30.16	766.1	60	15.6	.....	NNE	.....	.....	4	.....	7	.....	.....	4	.....	D. clouds....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 61° 12′, W. 48° 10′	.....	.....	29.70	754.4	44	6.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	Capt. Alex Simpson.
Barque Virginia, N. 47° 25′, W. 41° 25′	.....	.....	30.23	767.8	58	14.4	.....	SW	.....	.....	4	.....	10	.....	.....	4	W	Overcast.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			
San José	26.19	665.2			68.0	20.0	92	NE			1	6c	3s		E	0.3	8.		Mr. Ansart. Federico Maison

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

DANISH SERIES.

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

Copenhagen	29.53	750.1	29.58	751.3	60.8	16.0	81	WNW			2		10						
Fanöe	29.67	753.6	29.69	754.1	63.3	17.4	86	W			6		5						
Godthaab, (Greenland)	29.67	753.6	29.71	754.7	46.4	8.0		Calm			0		4						
Stykkisholm, (Iceland)	29.93	760.2	29.97	761.3	58.6	14.8	74	SE			2		5						
Thorshavn, (Farõe)	29.91	759.7	29.95	760.6	59.2	15.1	72	N			4		0						
Vestervig	29.51	749.6	29.68	753.9	63.3	17.4	76	W			4		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.54	750.2	30.09	764.2	68.0	20	63	W			4		8		NW	0.028	0.7	Very cloudy	Collignon, Director.
Amiens, Normal School	29.82	757.3	29.92	760.0	63.3	17.4	68	W			3		2		W	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.87	758.6	29.95	760.6	79.2	26.2	40	NNW			4		0		.....	0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.48	748.8	30.04	763.0	62.4	16.9	64	SW			2		10		W	0.008	0.2	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.72	755.0	29.96	761.0	64.2	17.9	75	W			3		10		W	0	0	Covered	Normal School.
Besançon	29.22	742.2	30.10	764.4	65.5	18.6	66	SSE			4		8		SW	0	0	Very cloudy	Normal School.
Bourg-en-Bresse	29.22	742.1	30.15	765.8	68.2	20.1	62	N			6		5km		N	0	0	Cloudy	Normal School.
Bourges, Normal School	29.48	748.7	30.07	763.7	68.7	20.4	67	SW					ck		SW	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.76	755.8	30.00	762.0	72.0	22.2	74	SW			2		9		SW	0	0	Hazy	The Staff.
Carcassonne, Normal School	29.73	755.2	30.13	765.2	81.0	27.2	30	W			2		5		W	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.39	746.6	29.94	760.5	73.2	22.9	73	W			3		9		E	0	0	Cloudy	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.5	29.98	761.4	68.4	20.2	57	SW			4		10ck		SW	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.72	729.4	30.04	763.0	68.4	20.2	47	W			2		5		W	0	0	Cloudy	Alluard, Director.
Commercy, Normal School	29.15	740.4	30.02	762.5	59.7	15.4	78	W			4		10		E	0.043	1.1	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.83	732.3	29.97	761.3	77.7	25.4	35	NW			6		2		NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.87	758.8	30.08	764.1	70.2	21.2	62	W			4		8		WSW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.76	755.8	30.06	763.5	67.5	19.7	57	NW			4		8		NW	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.02	737.1	29.91	759.5	70.2	21.2	62	W			2		8		E	0	0	Very cloudy	Baudry, Director.
Lorient, Naval Observatory	29.97	761.3	30.08	763.9	70.2	21.2	70	WSW			3		10		SW	0	0	Covered	T. Carré, Director.
Mâcon, Normal School	29.36	745.8	30.03	762.8	68.0	20	58	NW			6		5		NW	0	0	Cloudy	M. Galzin, Director.
Mirecourt	28.94	735.0	29.97	761.1	62.2	16.8	75	N			2		10		S	0	0	Covered	Normal School
Nismes, Normal School	29.75	755.6	29.95	760.6	61.0	27.2	32	N			4		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.65	753.0	30.02	762.5	73.4	23	61	W			2		10			0	0	Covered	Bernard, Director.
Paris, Observatory	29.76	756.0	30.00	762.0	64.4	18.0	62	W			1		10		WNW	0	0	Covered	National Observatory.
Privas	28.99	736.3	30.01	762.3	73.4	23	43	N			6		2		N	0	0	Slightly cov	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.10	764.4	30.13	765.2	76.2	24.0	46	SW			2		2		SW	0	0	½ covered	Lt. Decante, Director.
Rouen, Normal School	29.91	759.8	30.00	762.0	65.3	18.5	66	W			2		10		W	0	0	Covered	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.09	738.9	30.19	766.9	64.4	18	80	SSW			3		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.26	743.1	29.94	760.4	76.6	24.8	75	NE			2		5			0	0	Cloudy	M. Gausserand, Director.
SUB-STATIONS.																			
Fort de France, Martinique			29.85	758.1	81.3	27.4													
Lyons			30.08	764.1	73.9	23.3	44									0	0		L'Abbé Marchès.
Marseilles, Observatory			29.88	759.0	79.3	26.3	32	WNW			6		4			0	0		L. Jays.
Mont-Louis	24.98	634.5	30.30	769.6	63.7	17.6	61	ESE	5.6	2.50			2			0	0		The Staff.
Nice			29.87	758.8	75.6	24.2	67	SW			1		0			0	0		M. Cave.
Paris, Montsouris Obs'y	29.72	754.9	30.00	761.9	65.3	18.5	67	W			3		10		W	Inap.	Inap.	Clear	Dr. A. Niepce.
Perpignan			30.04	763.0	77.0	25.0	44	NW	14.9	6.66			0			0	0		Marié Davy, Director
Pic du Midi, (Summit,) H. P.																			Dr. Fines.
Pic du Midi, (Plantade,) H. P.	22.66	575.6			53.6	12.0		W			1		0			0	0		M. Baylac.
Saint Maur, (near Paris)	29.84	758.0	30.01	762.2	63.3	17.4	66	W			1		10		W	0	0	Clear	Gen'l de Nansouty.
Toulouse, Observatory	29.45	747.9	30.17	766.3	67.1	19.5	56	N			3		9			0	0	Covered	E. Renou.
Tours	29.83	758.1	30.04	763.1	69.8	21.0	57	W			2		10		W	0	0		The Staff.
Versailles, (near Paris)			30.01	762.2	67.6	19.8	60	NW			1		10			0.009	0.23	Covered	C. Marquet.
Zi-Ka-Wei, (near Shanghai)	29.67	751.1	29.90	761.8	80.8	27.1	95	W	9.2	4.1			10n			0.020	0.5	Raining	Dr. A. Bérigny.
																			Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.95	735.2	29.78	756.5	66.9	19.4	62	W			4		8	W		0.08	2.	Raining	Prof. Dr. Hoh.
Berlin	29.54	750.4	29.71	754.7	63.7	17.6	56	W			1		6			0.157	4.0	Raining	Prof. Arndt.
Breslau	29.23	742.4	29.75	755.7	62.4	16.9	63	W			5		9			0.109	2.76		Royal University Obs'y
Carlsruhe	29.52	749.8	29.94	760.4	65.1	18.4	70	SW			4		1			0	0		Albert Senz.
Cassel	29.22	742.3	29.83	757.7	66.6	19.2	63	WNW			4		8	W		0.768	19.50	Showery	Dr. H. Möhl.
Crefeld	29.68	753.9	29.84	758.0	67.3	19.6	66	SW			4		8k;n			0.16	4.		Director Lose.
Emden	29.79	756.6	29.83	757.6	57.2	14.0	78	NW			5		10			0.106	2.7		Prof. Prestel.
Frankfort on the Main	29.59	751.5	29.94	760.5	66.4	19.1		W			3		10			0.110	2.8		Physical Society.
Friedrichshafen	28.57	725.6	29.98	761.4	63.1	17.3	71	SW			6		10	WSW		0	0		M. Wilhelm.
Hamburg	29.66	753.3	29.72	755.0	62.8	17.1	82	NW			5		6k			0.386	9.8	Raining	Captain F. Hegemann.
Kiel	29.67	753.5	29.68	753.9	61.7	16.5	84	W			3		10			0.140	3.55		Prof. G. Karsten.
Königsberg, (Prussia)	29.48	748.8	29.56	750.8	64.4	18.0	65	W			3		6			0.079	2.0		Prof. E Luther.
Köslin			29.59	751.6	57.0	13.9		S			2		5			0.425	10.8		H. Müller.
Leipsic, Observatory	29.38	746.3	29.79	756.7	65.1	18.4	61	WSW			4		7	W		0.205	5.2		Prof. Bruhns.
Memel, Naval School	29.51	749.6	29.56	750.8	62.2	16.8	69	WNW			2		7cs						Reinbrecht and Skalweit.
Neufahrwasser	29.81	757.1	29.59	751.5	59.9	15.5	68	Calm			0		10	W		0.374	9.5		A. Lothes.
Posen	29.45	748.0	29.73	755.2	65.1	18.4	73	W			5		8			0.268	6.8	Thunder-storm	Dr. Magener.
Strassburg (in Alsace)	29.46	748.3	30.00	762.1	63.0	17.2	73	W			2		10	W		0.099	2.51		Astronomical Observatory.
Stuttgart	29.00	736.6	29.92	759.9	64.4	18.0	57	W			2		7	W		0	0		Prof. Schoder.
Treves, (Trier)	29.29	744.0	29.81	757.2	67.6	19.8	51	SW			7		10			0.127	3.22		Prof. Flesch.
Weissenburg, (Bavaria)	28.45	722.5	29.90	759.4	60.3	15.7	59	WNW	7	3			9ck		W	0.024	0.6		Dr. Von Bebber.
Wustrow, Naval School	29.63	752.5	29.67	753.5	62.6	17.0	87	W			3		7			0.665	16.9		E. F. Schütz.
GERMAN NAVAL SERIES.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.46	748.2	29.82	757.5	96.1	35.6		SW			1.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.60	751.8	29.65	753.1	87.9	31.1	67	WSW	34?	15.2?			9		WSW	0	0	D. clouds	
Deesa	29.21	742.0	29.68	753.8	91.7	33.2	61	SSW					1	W		0	0	Misty	
Bombay	29.73	755.1	29.77	756.0	81.8	27.7	92	WSW	4	1.8			10		WNW	0.68	17.3	Overcast	
Poona	27.82	706.6	29.82	757.3	80.1	26.7	81	NW					10		W	0	0	D. clouds	
Lahore	28.73	729.6	29.43	747.6	99.2	37.3	40	Calm	1.5	0.7			0			0	0	Blue sky	
Belgaum	27.26	692.5	29.80	757.0	74.9	23.8	90	W	18	8.0			5	W	WNW	1.03	26.2	Showery	
Bangalore																			
Roorkee	28.67	725.7	29.44	747.6	92.8	33.8	59	W	1.8	0.8			2			0	0		
Agra	28.97	735.8	29.51	749.6	91.6	33.1	70	NW	9	4.0					NW	0	0		
Trichinopoly																			
Nagpur	28.66	727.9	29.69	754.2	81.6	27.6	91	Calm	4.1	1.8			10		E	0.75	19.0	Overcast	
Madras																			
Lucknow	29.13	739.9	29.50	749.3	82.2	27.9	96	WSW	1.8	0.8						0.35	8.9	Blue sky	
Allahabad	29.22	742.2	29.53	750.0	84.1	28.9	86	SW	2.0	0.9			10	SW		0.60	15.2	Overcast	
Patna	29.45	747.9	29.63	752.5	79.7	26.5	94	Calm	1.0	0.4			10	E	E	2.07	52.6	Overcast	
Hazaribagh	27.62	701.4	29.60	751.7	82.8	28.2	81	SW	9.1	4.1			10			0.23	5.8	Showery	
Cuttack	29.56	750.7	29.64	752.8	84.3	29.1	66	SSW	6.0	2.7			3			0	0	D. clouds	
Calcutta (Alipore)	29.62	752.3	29.64	752.9	80.7	27.1	87	NW	3.0	1.3			10	W		0.03	0.8	Overcast	
Goalpara	29.23	742.4	29.62	752.2	78.2	25.7	96	Calm	1.6	0.7			10			1.49	37.8	D. clouds	
Chittagong	29.62	752.4	29.72	754.8	83.7	28.7	83	ESE	5.4	2.4			4			0	0	Threatening	
Sibsagar	29.29	743.9	29.62	752.3	83.9	28.8	79	SW	2.2	1.0			5			0.04	1.0	D. clouds	
Rangoon																			
Jubbulpore	28.32	719.2	29.67	753.6	81.9	27.7	79	SSW	7.3	3.3			10			0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.4	29.86	758.4	69.3	20.7	63	E	6.3	2.8	.....	.....	10	.....	.....	1.331	33.8	.....	Prof. Giovanni Clodig.
Padua	29.72	755.0	29.83	757.7	77.0	25.0	61	E	5.6	2.5	.....	.....	8	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.65	753.0	29.83	757.6	77.5	25.3	53	SE	2.5	1.1	.....	.....	2	W	.....	0.039	1.0	.....	Conte Alm. Da Schio.
Bergamo	28.55	725 1	29.81	757.2	78.4	25.8	55	SE	.....	.....	1	.....	4	.....	.....	0.551	14.0	.....	Prof. Trionfini Carlo.
Milan	29.31	744.4	29.80	756.9	83.6	28.8	.....	WSW	.....	.....	1	.....	3	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.93	734.9	29.79	756.7	81.5	27.5	41	S	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.96	710.2	29.78	756.4	77.5	25.3	49	NNW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.68	753.9	29.90	759.4	78.8	26.0	53	S	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.71	754.6	29.87	758.7	75.9	24.4	50	SE	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.62	749.8	29.82	757.4	81.7	27.6	47	NNW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.62	752.3	29.87	758.6	81.5	27.5	45	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F Meucci.
Leghorn	29.79	756.6	29.87	758.7	76.5	24.7	55	NNW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.77	756.2	29.82	757.4	77.7	25.4	53	N	.....	.....	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.35	720.0	29.81	757.8	80.8	27.1	38	SW	.....	.....	2	.....	5	.....	.....	0.039	1.0	.....	Prof. P. Serpieri.
Grosseto	29.70	756.0	29.87	758.7	79.2	26.2	56	SSE	.....	.....	4	.....	2	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.75	755.7	29.92	760.0	78.6	25.9	52	SW	15.0	6.7	.....	.....	2	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.76	755.9	29.95	760.8	82.4	28.0	43	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	95.4	35.2	27	WSW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.73	755.2	29.92	759.9	81.7	27.6	34	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.07	738.4	29.91	759.6	92.5	33.6	57	SW	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.65	753.0	29.89	759.3	80.4	26.9	70	ENE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.74	755.5	29.82	757.4	92.1	33.4	35	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.42	747.2	29.97	761.3	80.8	27.1	43	SSW	6.3	2.8	.....	.....	2	SW	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 879.6 m., or 1,246.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.52	749.8	29.71	754.6	79.8	26.6	87	SSW	16.2	7.2	.....	.....	10s;ks	.....	SW	.....	.....	Cloudy.....	
Tokei (Yeddo)	29.66	753.3	29.72	754 9	72.6	22.6	96	E	3.0	1.3	.....	.....	10ck;k	s;s	.....	0.440	11.18	Cloudy.....	The Observatory.
Tokei (Yeddo) University	29.63	752.6	29.72	755.0	72.6	22.6	96	Calm	0	0	.....	3ck	2ks	W	.....	0.55	14.0	Fair.....	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.0	17.8	88	N	0.9	0.4	.....	7c	2s	.....	.....	0.15	3.8	Cloudy.....	L. Castillo, A. E.
Guadalajara	25.11	637.3	30.06	763.4	58.1	14.5	89	Calm	0	0	.....	0	10	.....	.....	1.28	32.6	Covered...	Prof. L. Perez.
Guanajuato	23.73	602.8	29.94	760.6	62.8	17.1	81	ENE	.....	.....	.....	0	4	.....	.....	0	0	½ cloudy....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	63.3	17.4	81	SW	0.9	0.4	.....	3c	4s	NE	.....	0.04	0.9	Cloudy.....	Prof. M. Leal.
Mexico	23.15	588.0	30.12	765.0	61.7	16.5	73	Calm	0	0	.....	0	8k	.....	NE	0.06	1.5	Cloudy.....	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.1	17.3	78	NNE	1.8	0.8	.....	6ck	1s	E	E	0	0	½ cloudy. ...	M. V. de Leon, M. E.
Puebla	23.39	594.0	30.04	763.1	54.5	12.5	86	ENE	4.0	1.8	.....	3c	4cs	.....	.....	0.27	6.8	Cloudy	Prof. R. Gonzales.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.96	761.1	30.00?	761.4	75.2	24.0	92	N	10.8	4.8	.....	0	8n	.....	NE	0.83	21.0	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.14	765.6	63.0	17.2	93	E	0.9	0.4	.....	0	8n	.....	E	0.02	0.6	Cloudy.....	G. Barroeta, M. D.
Vera-Cruz	30.01	762.3	30.04	763.0	78.8	26.0	88	WNW	5.1	2.3	.....	2c	5k	E	.....	0.35	8.8	Cloudy.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	90	NNE	1.8	0.8	.....	0	10	.....	.....	0	0	Overcast.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.31	592.2	30.04	763.2	52.7	11.5	84	NE	4.5	2.0	.....	1	0	.....	.....	0.30	7.5	Clear.	Prof. P. Spina. (M.M. D. D
Morelia	24.13	613 0	.....	.....	66.2	19.0	67	NE	0.9	0.4	.....	0	0	.....	.....	0.05	1.3	Clear.	M. Tena, F. L. Paramo,
Durango	24.25	615.8	30.06	763.5	64.5	18.1	91	N	0.9	0.4	.....	2cs	0	W	.....	0.13	3.2	Clear.	M. V. de Leon, C. E.
Colima	28.36	720.5	29.99	761.8	78.8	26.0	84	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.2	Very cloudy	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,891 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,283.5 m., or 7,488.4 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,165 m., or 7,069.9 ft; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,803 m., or 5,210.4 ft.; Zacatecas, 2,498 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.92	759.9	29.93	760.0	67.3	19 6	.....	W	.....	.....	4	.....	.....	.....	.....	0 035	0.9	.....	
Groningen	29.76	756.0	29.82	757.4	60.8	16.0	.....	NW	.....	.....	2	.....	.....	.....	.....	0.079	2.0	.....	
Helder	29.85	758.1	29.85	758.1	61.6	16.6	.....	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.88	759.0	29.88	759.0	61.3	16.3	76	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.83	757.7	29.88	758 9	67.5	19.7	61	W	.....	.....	2	.....	8	.....	.....	0.126	3.2	Very cloudy	H. v d Broek.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10.	Clouds. Amount. Up'er. 1—10.	Clouds. Amount. Low'r. 1—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	29.60	751.9	29.66	753.3	59.7	15.4	75	WNW	9.2	4.1	.....	.....	1	.....	.....	0.039	1.0	.....	.....
Brönö	29.58	751.4	29.62	752.4	60.8	16.0	69	N	9	4	.....	.....	4	.....	.....	0	0	.....	.....
Christiania	29.39	746.6	29.53	750.1	69.3	20.7	50	WSW	13	6	.....	.....	9	.....	.....	0.047	1.2	.....	.....
Tromsö	29.62	752.4	29.67	753.5	62.2	16.8	64	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.24	768.0	30.43	772.8	71.1	21.7	84	SE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.4	29.94	760.5	95.0	35.0	21	.....	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.07	763.7	30.15	765.9	73.4	23.0	61	SW	8.1	3.6	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.65	753.2	30.00	761.9	83.7	28.7	41	WSW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.34	770.7	30.41	772.4	77.0	25.0	63	S	.....	.....	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell. Height, scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	1	.....	Foggy	A. J. de Mattos, Com'd't.
Rio Douro, S. 25° 58′, E. 32° 37′	3	NE	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	2	SE	D.clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	1	.....	Foggy	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	
.....	.....	.....	.....	

Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	30.02	762.4	69.8	21.0	.....	NNW	.....	.....	1	.....	10	.....	.....	1	.....	Foggy	A. J. de Mattos, Com'd't.
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.13	765.3	78.8	26.0	.....	NNE	.....	.....	4	.....	3	.....	NE	3	NE	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.95	760.6	81.5	27.5	.....	NE	.....	.....	2	.....	2	.....	E	2	SE	D.clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.99	761.8	72.5	22.5	.....	NNW	.....	.....	1	.....	10	.....	.....	1	.....	Foggy	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.22	742.2	29.63	752.7	58.8	14.9	84	W	9	4	.....	.....	9n;ks	.....	.....	.....	.....	Raining.....	Astronomical Obs.
Wilna	29.14	740.1	29.51	750.4	64.2	17.9	58	SW	4	2	.....	.....	8	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.27	743.4	29.50	749.3	67.3	19.6	64	WSW	4	2	.....	.....	9k	.....	.....	.....	.....	.....	Prof. Dr. Welhrauch.
St. Petersburg	29.50	749.3	29.52	749.7	62.6	17.0	75	E	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.00	736.6	29.61	752.1	64.4	18.0	61	NW	13	6	.....	.....	9ks;n	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.64	752.9	29.71	754.7	80.2	26.8	65	NW	9	4	.....	.....	5k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.74	755.4	29.76	755.9	75.2	24.0	90	S	13	6	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.03	737.3	29.56	750.7	63.1	17.3	85	S	7	3	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.7	29.64	752.8	67.5	19.7	73	SSW	22	10	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.60	751.8	29.62	752.3	71.6	22.0	83	NNE	9	4	.....	.....	9k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.48	723.3	29.80	757.0	87.4	30.8	33	S	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.85	758.2	29.77	756.1	85.1	29.5	26	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.18	741.1	29.43	747.6	72.7	22.6	66	W	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[ks;k 8n;e;ck;	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.41	721.7	29.30	744.3	71.6	22.0	50	ENE	4	2	.....	.....	10kn	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.51	749.5	29.73	755.1	81.0	27.2	54	NNW	4	2	.....	.....	.....	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.13	714.6	29.73	755.1	83.1	28.4	57	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	Light clouds	Michelson.
Barnaul	29.06	738.0	29.54	750.3	76.5	24.7	56	SE	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.19	741.4	29.46	748.3	75.7	24.3	70	SSW	2	1	.....	.....	7	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.35	745.5	29.49	749.1	78.4	25.8	60	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.3 ? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.2 ? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.89	759.3	30.00	761.9	80.2	26.8	54	SW	5.1	2.28	.....	0	.....	.....	.....	0	0	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.08	764.0	30.13	765.4	75.2	24.0	61	NW	2.2	1.00	.....	3	4	N	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.18	690.3	.....	.....	71.1	21.7	37	NE	8.0	3.56	.....	.....	.....	.....	.....	0	0	Clear.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.82	706.5	29.89	759.2	91.9	33.3	27	SW	5.2	2.33	.....	0	2	.....	.....	0	0	Partly cl'dy	The Staff.
Murcia, Met. Obs'y	29.89	759.2	30.03	762.8	89.1	31.7	48	SE	5.8	2.58	.....	.....	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.18	741.1	30.04	763.1	75.7	24.3	49	NE	16.1	7.22	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.5	30.01	762.2	83.3	28.5	79	Calm	0	0	.....	2c	0	SW	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	759.1	29.98	761.4	90.9	32.7	30	ESE	22.3	9.9	.....	0	0	.....	.....	.....	.....	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	82.4	28.0	89	SE	0	0	.....	5k	8kn	SE	SE	0.069	1.75	Cloudy.....	Leonardo de Tejada, Ch'f Eng'r.

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Low'r 0-10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.65	753.2	29.69	754.2	57.2	14.0	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.54	750.4	29.60	751.7	57.2	14.0	80	NNE	.....	.....	4	.....	10	.....	.....	0.126	3.2	.....	
Hernosand	29.50	749.3	29.55	750.6	54.8	12.4	87	NE	.....	.....	6	.....	10	.....	.....	0.008	0.2	.....	
Stockholm	29.34	745 1	29.51	749.6	57.0	13.9	86	NW	.....	.....	4	.....	10	.....	.....	0.189	4.8	.....	
Wisby	29.47	748.5	29.53	750.0	59.0	15.0	74	NNW	.....	.....	2	.....	10	.....	.....	0.024	0.6	.....	
Sub-Series.																			
Upsala	29.43	747.6	29.51	749.5	57.4	14.1	84	NNW	9.8	4.4	.....	.....	10	.....	NNW	0.008	0.21	Raining	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.61	726.7	30.00	761.9	68.2	20.1	63	N	.....	.....	2	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.41	721.5	30.02	762.5	61.5	16.4	71	W	.....	.....	2-4	.....	10	.....	.....	0	0	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.8 mm.; Thermometer, —2.4 cent.; Relative Humidity, 0 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.80	757.0	84.6	29.2	52	ESE	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.03	762.8	87.4	30.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.55	751.3	29.69	754.2	68.0	31.1	65	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	30.08	764.0	30.12	765.0	74.2	23.4	88	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.92	760.0	30.21	767.3	80	26.7	.....	NE	1	0.4	.....	0	2s	.....	NE	0	0	Clear	W. R. Bigg.
*Chatham, N B	30.13	765.3	30.19	766.8	62	16.7	72	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.13	765.3	30.17	766.8	68	20.0	52	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	30.01	762.2	30.20	767.1	61.7	16.5	88	SW	.....	.....	1	6cs	0	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.16	766.1	66	18.9	65	W	.....	.....	2	.....	.....	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	29.90	759.4	29.95	760.7	53.2	11.8	100	Calm	.....	.....	.....	10cs	.....	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.18	766.3	30.15	765.8	57	13.9	72	SW	16	7.2	.....	0	2s	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	30.18	766.6	30.24	768.1	63.4	17.4	60	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.11	739.4	29.90	759.4	66	18.9	97	SW	4	1.8	.....	Haze	Fog	SW	SW	0.170	4.32	Foggy	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton, Ontario	28.98	736.1	30.05	763.3	64	17.8	100	E	.....	.....	1	.....	10n	.....	.....	0.50	12.7	Raining	H. J. Strang, M. A.
*Halifax, N. S	30.05	763.3	30.18	766.6	65	18.3	83	SE	4	1.8	.....	0	2ks	.....	W	0	0	Fair	James Grant.
Hamilton, Ontario	29.76	755.9	30.12	765.0	68.2	20.1	93	E	.....	.....	2	.....	10ks	.....	W	0.94	23.9	Raining	F. Allison, M. A.
Heart's Content, N. F	30.03	762.7	30.06	763.5	63	17.2	67	SE	.....	.....	1	3k	2ks	.....	.....	0	0	Cloudy	Geo. Dickson, M. A.
*Kingston, Ontario	29.87	758.7	30.20	767.1	69	20.6	75	E	6	2.7	.....	5ck	5ks	W	Calm	Inap.	Inap.	Cloudy	E. Weedon.
Little Glace Bay, N. S	30.10	764.5	30.14	765.5	70.6	21.4	.....	W	5	2.2	.....	1k	0	W	.....	0	0	Fair	S. Woods, M. A.
*Montreal, Quebec	30.03	762.7	30.23	767.8	65	18.3	74	S	3	1.3	.....	8c	Sm'e	N	.....	0	0	Cloudy	O. H. Rigby.
*Parry Sound, Ontario	29.46	748.3	30.13	765.3	65	18.3	97	E	7	3.1	.....	.....	10n	.....	SE	0	0	Cloudy	C. H. McLeod, C. E
Peterboro, Ontario	29.42	747.3	30.14	765.5	71.2	21 8	68	E	.....	.....	1	.....	10n	.....	.....	0	0	Cloudy	Rev. R. Mosley.
Port Dover, Ontario	29.40	746.7	30.07	763.8	67	19.4	95	E	2	0.9	.....	.....	10n	.....	E	0.17	4.3	Light rain	J. F. Jeffers, B. A.
Port Hastings, N. S	30.12	765.0	30.17	766.3	63.4	17.4	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	H. Morgan.
Port Stanley, Ontario	29.43	747.5	30.05	763.3	70	21.1	98	SE	10	4.5	.....	.....	10n	.....	SE	0.69	17.5	Heavy rain	Peter Grant.
*Quebec, Quebec	29.93	760.2	30.25	768.3	59	15.0	76	N	.....	.....	1	0	0	.....	.....	0	0	Clear	M. Payne.
*Rockliffe, Ontario	29.76	755.9	30.21	767.3	60	15.6	82	E	6	2.7	.....	8ck	0	W	.....	0	0	Cloudy	Capt. Ashe, R. N
St. Andrews, N. B	30.18	766.6	30.23	767.8	62	16.7	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. John, N. B	30.08	764.0	30.24	768.1	60	18.9	59	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.40	746.7	30.09	764.3	66	18.9	93	SE	10	4.5	.....	.....	10ks	.....	S	0.45	11.4	Cloudy	G. Murdock, C. E.
Stayner, Ontario	29.36	745.7	30.12	765.0	65	18.3	97	E	4	1.8	.....	.....	10n	.....	SE	0.18	4.6	Light rain	K. Stewart.
Stratford, Ontario	28.80	731.5	30.05	763.3	64.3	17.9	98	SE	6	2.7	.....	.....	10n	.....	.....	0.637	16.18	Raining	R. J. Cole.
*Sydney, C. B	30.13	765.3	30.16	766.1	67	19.4	50	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.74	755.4	30.11	764.8	67	19.4	99	E	5	2.2	.....	.....	10n	.....	E	0.54	13.7	Heavy rain	T. C. Hill.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			J. Montgomery.
St. Johns, Newfoundland	.....	.....	.....	.....	55.0	12.8	98	E	.....	.....	.....	Fog	Fog	.....	.....	0.01	0.3	Foggy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

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

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0–10.	Clouds. Amount. Low'r. 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.98	761.5	30.20	767.1	66	18.9	74	N	2	0.9			10s		W	0.04	1.0	Cloudy	
Alpena, Michigan	29.40	746.7	30.02	762.5	66	18.9	94	E	5	2.2			10s		Calm	0.02	0.5	Cloudy	
Atlantic City, New Jersey	30.18	766.6	30.20	767.1	67	19.4	100	E	6	2.7			Fog		Calm	0	0	Foggy	
Augusta, Georgia	30.01	762.2	30.19	766.8	79	26.1	82	Calm	0	0		8ck	2s	S	SE	0	0	Cloudy	
Baltimore, Maryland	30.10	764.5	30.14	765.5	78	25.6	86	E	5	2.2		10cs	10s		Calm	0	0	Cloudy	
Barnegat, New Jersey	30.17	766.3	30.19	766.8	65	18.3	97	E	6	2.7		10cs	Fog	W	Calm	0	0	Foggy	
Bismarck, Dakota	28.04	712.2	29.90	759.4	78	25.6	73	E	10	4.5			Sm'e			0	0	Smoky	
BoiseCity, Idaho	27.20	690.9	30.08	764.0	58	14.4	63	S	4	1.8		0	0			0	0	Clear	
Boston, Massachusetts	30.08	764.0	30.23	767.8	70	21.1	61	E	5	2.2		4ck	4s	NW	SE	0.31	7.9	Fair	
Brackettville, Texas	28.91	734.3	29.90	759.4	78	25.6	82	SE	5	2.2		2cs	0	Calm		0	0	Fair	
Breckenridge, Minnesota	28.93	734.8	29.87	758.7	70	21.1	95	SE	10	4.5			10s		Calm	0	0	Cloudy	
Brownsville, Texas	29.96	761.0	30.02	762.5	79	26.1	82	E	2	0.9		8c	0	Calm		0	0	Fair	
Buffalo, New York	29.40	746.7	30.07	763.8	68	20.0	90	E	5	2.2			10n		SW	0.15	3.8	Light rain	
Burkes, Arizona					87	30.6	49	E			1	5ck	5s	SW	E	0	0	Cloudy	
Burlington, Vermont	29.99	761.7	30.25	768.3	62	16.7	66	NE	5	2.2		1c	Haze	W		0	0	Clear	
Cairo, Illinois	29.75	755.6	30.12	765.0	86	30.0	76	Calm	0	0		0	0			0	0	Clear	
Camp Apache, Arizona					68	20.0	65	N			1	0	5s		SE	Blank	Blank	Fair	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	64	17.8	83	Calm			0	2c	0	Calm		0.35	8.9	Fair	
Camp Verde, Arizona	26.76	679.7	30.25	768.3	72	22.2	34	SW			1	5cs	0	Calm		0.44	11.2	Fair	
Campo, California	27.41	696.2	29.98	761.5	39	3.9	71	Calm			0	0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.23	767.8	30.21	768.1	81	27.2	83	SW	8	3.6		2k	0	SW		0	0	Fair	
Cape Henry, Virginia	30.15	765.8	30.17	766.3	82	27.8	71	SW	15	6.7		5cs	0	SW		0	0	Fair	
Cape Lookout, N. Carolina	30.23	767.8	30.24	768.1	84	28.9	75	SW	4	1.8		8cs	0	SW		0	0	Cloudy	
Cape May, New Jersey	30.16	766.1	30.19	766.8	74	23.3	90	E	12	5.4			10s		E	0	0	Cloudy	
Charleston, South Carolina	30.14	765.5	30.20	767.1	84	28.9	75	E	17	7.6		1k	0	E		Inap.	Inap.	Clear	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	61	16.1	71	W	1	0.4		0	0			0.16	4.1	Clear	
Chicago, Illinois	29.32	744.7	29.98	761.5	72	22.2	90	E	5	2.2		5k	5ks	W	W	1.31	33.3	Clearing	
Cincinnati Ohio	29.44	747.8	30.06	763.5	82	27.8	75	SW	3	1.3		7c	0	N		0	0	Fair	
Cleveland, Ohio	29.31	745.2	30.04	763.0	73	22.8	85	S	10	4.5			10n		S	0.65	16.5	Light rain	
Columbus, Ohio	29.26	743.2	30.02	762.5	81	27.2	78	N			1	10cs	0	Calm		0	0	Cloudy	
Corpus Christi, Texas	28.15	715.0	29.76	755 9	75	23.9	76	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.63	752.6	30.08	764.0	76	24.4	91	Calm	0	0		0	5s		Calm	0	0	Fair	
Davenport, Iowa	29.37	746 0	29.97	761.2	80	26.7	82	S	5	2.2		7ck	0	SW		0	0	Fair	
Denison, Texas	29.25	744.0	30.06	763.5	80	26.7	82	S	3	1.3		0	0			0	0	Clear	
Denver, Colorado	24.91	632.4	30.12	765.0	66	18.9	69	S	6	2.7		0	2s		Calm	0.10	2.5	Clear	
Detroit, Michigan	29.36	745 7	30.00	762.0	72	22.2	90	SW	6	2.7			10s		W	1.16	29.2	Cloudy	
Dodge City, Kansas	27.48	698.0	29.65	753 1	77	25.0	69	S	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29 26	743.2	29.92	760.0	76	24.4	86	S	4	1.8		0	Fog		Calm	0.94	23.9	Foggy	
Duluth, Minnesota	29.34	745.2	30.00	762.0	63	17.2	89	NE	7	3.1			10n		NE	0.01	0.3	Light rain	
Eagle Pass, Texas	29.20	741.7	29.90	759.4	79	26.1	82	E	4	1.8		5k	0	SE		0	0	Fair	
Eastport, Maine	30.14	765.5	30.21	767.3	64	17.8	63	Calm	0	0		0	Haze		Calm	0	0	Clear	
El Paso, Texas					85	29.4	44	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.35	745.5	30.04	763.0	70	21.1	95	SE	11	4.9			10s		W	0.24	6.1	Cloudy	
Escanaba, Michigan	29.42	747.3	30.05	763.3	66	18.9	89	NE	6	2.7			10s		NE	Inap.	Inap.	Cloudy	
Florence, Arizona					78	25.6	65	E			1	2ck	0	SE		0.11	2.8	Fair	
Fort Craig, New Mexico																			
Fort Davis, Texas	25.32	643.1	30.28	769.1	72	22.2	63	W	1	0.4		2c	0	E		0	0	Fair	
Fort Gibson, Indian Ter	29.54	750.3	30.05	763.3	82	27.8	83	SE	3	1.3		0	0			0	0	Clear	
Fort Griffin, Texas	28.80	731.5	30.03	762.7	75	23.9	56	Calm	0	0		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.86	733.0	29.92	760 0	76	24 4	86	SW	3	1.3		0	0			0	0	Clear	
Galveston, Texas	30.01	762.2	30.06	763.5	84	28.9	79	SE	6	2.7		5k	0	E		0.30	7.6	Fair	
Grand Haven, Michigan	29.37	746.0	29.98	761.5	75	23.9	90	SE	3	1.3			10s		SE	0.40	10.2	Cloudy	
Indianapolis, Indiana	29.30	744.2	30.03	762.7	81	27.2	78	SW	5	2 2			10s		Calm	0	0	Cloudy	
Indianola, Texas	30.02	762.5	30.05	763.3	81	27.2	91	NE	10	4.5		5k	1ks	E	Calm	0.16	4.1	Fair	
Jacksboro, Texas	28.95	735.3	30.03	762.7	79	26.1	78	S	6	2.7		0	0			0	0	Clear	
Jacksonville, Florida	29.91	759.7	29.93	760.2	79	26.1	91	E	25	11.2			10n		E	1.82	46.2	Light rain	
Keokuk, Iowa	29.38	746.2	29.94	760.5	87	30.6	69	W	8	3.6		0	0			0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762 2	85	29.4	72	E	4	1.8		1cs	1ks	Calm	Calm	0	0	Clear	
Kittyhawk, North Carolina	30.22	767.6	30.24	768.1	79	26.1	78	W	14	6.3		2k	0	W		0	0	Fair	
Knoxville, Tennessee	29.23	742.4	30.20	767.1	78	25.6	73	SW	4	1.8		1ck	0	Calm		0	0	Clear	
La Crosse, Wisconsin	29.20	741.7	29.90	759.4	73	22.8	95	S	1	0.4			10s		Calm	1.23	31.2	Cloudy	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	63	20.0	69	Calm	0	0		0	0			0.57	14.5	Clear	
Laredo, Texas	29.69	751.8	29.93	760.2	80	26.7	87	E	3	1.3		0	0			0.22	5.6	Clear	
Lead City, Dakota	24.88	631.9			75	22 8	43	S	12	5.4		0	0			0	0	Clear	
Leavenworth, Kansas	29.17	740.9	29.97	761.2	79	26.1	82	Calm	0	0		0	0			0	0	Clear	
Los Angeles, California	29.57	751.1	29.99	759.4	55	12.8	74	N	3	1.3		0	0			0	0	Clear	
Louisville, Kentucky	29.56	751.8	30.08	764.0	83	28.3	71	S	4	1.8		8c	Sm'e	NW	S	0	0	Fair	
Lynchburg, Virginia	29.46	748.3	30.10	764.5	83	28.3	64	S	4	1.8		2cs	0	Calm		0	0	Clear	
Marquette, Michigan	29.37	746.0	30.05	763.3	66	18.9	85	E	8	3.6			10s		Calm	0	0	Cloudy	
Mason, Texas	28.42	721.9	30.03	764.3	81	27.2	66	SE	1	0.4			10s		SE	0	0	Cloudy	
Memphis, Tennessee	29.82	757.4	30.12	765.0	85	29.4	75	SW	2	0.9		2c	0	SW		0	0	Clear	
Milwaukee, Wisconsin	29.32	744.7	30.02	762 5	67	19.4	100	NW	9	4.0			10n		N	0.97	24.6	Heavy rain	
Mobile, Alabama	30.08	764.0	30.12	765.0	81	27.2	78	SE	4	1.8			10s		SE	0.45	11.4	Cloudy	
Montgomery, Alabama	29.90	759.4	30.12	765.0	79	26.1	61	E	1	0.4		0	0			0	0	Clear	
Morgantown, West Virginia	29.08	738.6	30.08	764.0	78	25.6	73	Calm	0	0		10c	0	NW		0	0	Cloudy	
Mt. Washington, N. H.	24.07	611.4	30.43	772 9	44	6.7	36	Calm	0	0		0	Haze		Calm	0	0	Clear	
Nashville, Tennessee	29.64	752.8	30.14	765.5	85	29.4	68	E	2	0.9		Haze	5s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	30.11	764 8	30.22	767.6	73	22.8	81	E	1	0.4		8ck	2s			0	0	Cloudy	
New London, Connecticut	30.17	766 3	30.22	767.6	67	19.4	89	SE	6	2.7			10s		S	0.05	1.3	Cloudy	
New Orleans, Louisiana	30.02	762.5	30.08	764.0	82	27.8	75	NE	4	1.8		5ck	0	SW		0.14	3.6	Fair	
Newport, Rhode Island	30.17	766.3	30.22	767.6	68	20.0	90	SE	7	3.1			10ks		W	Inap.	Inap.	Threatening	
New York, New York	30.04	763.0	30.22	767.6	71	21.7	85	SE	4	1.8			10s;fg		W	0.29	7.4	Cloudy	
Norfolk, Virginia	30.15	765.8	30.21	767.3	85	29.4	68	SW	8	3.6		2cs	0	Calm		0	0	Clear	
North Platte, Nebraska	27.07	687.6	29.50	749.3	72	22.2	76	SE	6	2.7		2c	0	Calm		0	0	Clear	
Olympia, Washington Ter.	29.93	761.0	30.00	762.0	55	12.8	87	Calm	0	0			10s		Calm	0	0	Cloudy	
Omaha, Nebraska	28.82	732.0	29.83	757.7	81	27.2	74	S	4	1.8		0	0			0	0	Clear	
Oswego, New York	29.87	758.7	30.18	766.6	68	20.0	84	S	6	2.7			10s		Calm	0.05	1.3	Cloudy	
Pembina, Dakota	29.10	739.1	29.89	759.2	67	19.4	95	SE	7	3.1			10s		Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	30.14	765.5	30.19	766.8	73	22.8	90	SE	8	3.6			10s		E	0	0	Cloudy	
Phœnix, Arizona	28.76	730.5			86	30.0	61	Calm			0	5c	0	Calm		0	0	Fair	
Pike's Peak, Colorado	18.05	458.5	30.36	771.1	39	3.9	64	SW	10	4.5		0	0			0.33	7.6	Clear	
Pioche, Nevada	24.16	613.6	29.93	760.2	58	14.4	17	S	3	1.3		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.30	744.2	30.07	763.8	74	23.3	81	E	2	0.9			10s		W	0	0	Cloudy	
Port Huron, Michigan	29.35	745.5	29.99	761.7	68	20.0	95	Calm	0	0			10s		Calm	0.06	1.5	Cloudy	
Portland, Maine	30.18	766.6	30.21	767.3	67	19.4	60	NE	9	4.0		1k	Haze	Calm		0	0	Clear	
Portland, Oregon	30.03	762.7	30.13	765.3	56	13.3	81	NE	4	1.8			10ks		W	0	0	Cloudy	
Prescott, Arizona	24.89	631.4	30.22	767.6	66	18.9	50	S			1	2ck	5ks	Calm	SW	0.23	5.8	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.02	762.5	30.04	763.0	80	26.7	78	NE	4	1.8	.....	2c	0	NE	.....	0	0	Clear	
Red Bluff, California	29.60	751.8	29.95	760.7	66	18.9	59	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.54	750.3	30.14	765.5	66	18.9	89	SE	6	2.7	.....	.....	10s	.....	SW	0.12	3.0	Cloudy	
Roseburg, Oregon	29.56	750.8	30.13	765.3	49	9 4	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.85	758.2	29.93	760.2	59	15.0	76	SE	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.51	749.5	30.05	763.3	84	28.9	68	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.01	762.2	30.03	762.7	75	23.9	95	N	12	5.4	.....	2ck	8s	Calm	Calm	0	0	Cloudy	
St. Paul, Minnesota	29.10	739.1	29.88	758.9	70	21.1	92	NE	6	2.7	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Salt Lake City, Utah	25.69	652.5	30.02	762.5	64	17.8	21	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.87	746.0	29.93	760.2	79	26.1	87	NE	2	0.9	.....	2k	0	NE	.....	0	0	Clear	
San Diego, California	29.86	758.4	29.94	760.5	62	16.7	88	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.39	746.5	30.03	762.7	74	23.3	86	SW	10	4.5	.....	.....	10ks	.....	SW	0.21	5.3	Cloudy	
Sandy Hook, New Jersey	30.18	766.6	30.21	767.3	69	20.6	95	SE	8	3.6	.....	1cs	10ks	NW	NW	0.18	4.6	Cloudy	
San Francisco, California	29.89	759.2	29.96	761.0	54	12.2	87	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.46	595.9	30.00	762.0	60	15.6	65	N	4	1.8	.....	0	0	.....	.....	0.86	21.8	Clear	
Savannah, Georgia	30.05	763.3	30.14	765.5	80	26.7	91	E	12	5.4	.....	.....	10n	.....	E	0.04	1.0	Light rain	
Shreveport, Louisiana	29.91	759.7	30.12	765.0	79	26.1	91	SE	1	0.4	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Silver City, New Mexico	24.39	619.5	30.39	771.9	63	17.2	83	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.22	767.6	30.25	768.3	81	27.2	78	E	10	4.5	.....	5cs	0	NE	.....	0	0	Fair	
Springfield, Massachusetts	30.02	762.5	30.15	765.8	72	22.2	67	N	4	1.8	.....	10ck	0	N	.....	Inap.	Inap.	Cloudy	
Stockton, Texas	27.00	685.8	30.00	762.0	71	21.7	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.17	766.3	30.23	767.8	66	18.9	79	NE	8	3.6	.....	1k	0	NW	.....	0.05	1.3	Clear	
Toledo, Ohio,	29.37	746.0	30.01	762.2	74	23.3	90	S	10	4.5	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Tucson, Arizona	27.44	697.0	29.99	761.7	73	22.8	76	E	.....	.....	2	5c	0	Calm	.....	5.20	132.1	Fair	
Tybee Island, Georgia	30.10	764.5	30.13	765.3	81	27.2	100	SE	19	8.5	.....	.....	10n	.....	SE	0.54	13.7	Light rain	
Umatilla, Oregon	29.70	754.4	.....	.....	59	15.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.90	759.4	30.14	765.5	85	29.4	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.35	618.5	29.83	757.7	56	13.3	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.60	751.8	29.96	761.0	63	17.2	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.04	763.0	30.15	765.8	82	27.8	61	E	4	1.8	.....	2ck	Fog	W	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	.....	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.16	766.1	30.23	767.8	81	27.2	83	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	50	10.0	45	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.17	766.3	30.22	767.6	66	20.0	84	SE	4	1.8	.....	.....	10s	.....	SW	0.11	2.8	Cloudy	
Yankton, Dakota	28.65	727.7	29.86	758.4	76	24.4	91	NE	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Yuma, Arizona	29.59	751.6	29 74	755.4	84	28.0	61	SE	1	0.4	.....	2cs	0	.....	.....	0	0	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.92	760.0	29.97	761.2	62.0	16.7	46	S	10	4.5	.....	2c	0	SE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.96	761.0	29.98	761.5	84	28.9	75	E	2.4	1.1	.....	8c	0	W	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	77	25.0	86	NE	2	0.9	.....	5ck	2s	SE	.....	0.65	16.5	.....	F. M. Everett.
Navassa, W. I.	29.87	758.7	29.95	760.7	84	28.9	.....	E	30	13.4	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	79	26.1	91	NE	.....	.....	2	4c	5k	E	.....	0.030	0.76	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	66.0	18.9	65	SW	6	2.7	.....	6cs	4ks	.....	.....	0.04	1.0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,700 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?)60 ft., or 633.4 m.; Denver, 5,192 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,286 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,590 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.94	760.5	58	14.4	56	13.3	90	SSW	9	4.0	.....	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Navy Yard, Pensacola, Fla.	30.25	768.3	80	26.7	80	26.7	85	NE	2	0.9	.....	.....	8	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.28	769.1	76	24.4	71	21.7	53	NE	4	1.8	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.70*	754.4*	75	23.9	73.2	22.9	98	Calm	.....	.....	0	.....	10ks;sm	.....	WNW	0.88	22.4	.....	.....	Cloudy	
Alliance, Havre, France	29.94‡	760.5‡	.....	.....	63	17.2	100	ENE	.....	.....	0–1	.....	10	.....	ENE	.....	.....	.....	.....	Rainy	
Ashuelot. Nagasaki, Japan	29.79	756.7	80	26.7	80	26.7	91	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Misty.....	
Alaska, N. 4° 40′, W. 28° 50′	30.17	766.3	84	28.9	83	28.3	67	SE	.....	.....	3	.....	3	.....	SE	.....	.....	Long	SE	Clear.....	
Canonicus, New Orleans, La	30.10	764.5	56	13.3	80	26.7	82	N	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	30.2?‡	767.6‡	.....	.....	72	22.2	90	SSE	1	0.4	.....	.....	10	.....	SSW	0.29	7.4	.....	.....	Light fog.....	
Constellation, N. 39° 54′, W. 73° 56′	30.29‡	769.4‡	.....	.....	71	21.7	90	E	.....	.....	1	.....	10	.....	E	.....	.....	Smooth	.....	Cloudy..	
Constitution, Havre, France	29.94‡	760.5‡	.....	.....	63	17.2	89	WNW	.....	.....	3	.....	9	.....	SW	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	29.80‡	756.9‡	.....	.....	78	25.6	86	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.96‡	761.0‡	.....	.....	77	25.0	100	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	30.33	770.4	81	27.2	80	26.7	74	SW	12	5.4	.....	.....	2	.....	NW	0	0	.....	.....	D. clouds.....	
Gettysburg Alexandria, Egypt	29.72‡	754.9‡	.....	.....	80	26.7	96	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.	
Guard, Rio de Janeiro, Brazil	30.23	767.8	72	22.2	72	22.2	85	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Hartford, Rio de Janeiro, Brazil	30.19	766.8	.....	.....	68	20.0	84	N	5.4	2.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	29.88	758.9	76	24.4	78	25.6	61	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.58	751.3	73	22.8	70	21.1	85	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Raining.....	
Monocacy. Yokohama, Japan	29.65‡	753.9‡	.....	.....	75	23.9	95	NW	.....	.....	1	.....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.38†	771.6†	.....	.....	82	27.8	79	E	22	9.8	.....	.....	8	.....	ESE	0.01	0.3	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	61	16.1	88	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty....	
Palos, Tientsin, China	29.65	753.1	91	32.8	84	28.9	91	N	.....	.....	2	.....	10	.....	NW	.....	.....	.....	.....	Overcast.....	
Pensacola, Mare Island, California	30.03	762.7	64	17.8	55	12.8	100	SW	3	1.3	.....	.....	1	.....	SW	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y.	30.21‡	767.3‡	.....	.....	74	23.3	81	SE	.....	.....	0–1	.....	10	.....	SE	.....	.....	.....	.....	Hazy.....	
Ranger. Hong-Kong, China	29.87*	758.7*	.....	.....	86	30.0	83	S	.....	.....	1	.....	6	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.97	761.2	77	25.0	77	25.0	95	Calm	.....	.....	0	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.14‡	765.5‡	.....	.....	80	26.7	91	E	.....	.....	2	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.11	764.8	76	24.4	72	22.2	95	SE	10	4.5	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	30.05	763.3	63	17.2	64	17.8	78	NW	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.	30.22‡	767.6‡	.....	.....	70	21.1	90	E	.....	.....	2	.....	8	.....	N	.....	.....	.....	.....	Cloudy	
Trenton, Leghorn, Italy	29.89‡	759.2‡	.....	.....	75	23.9	72	NW	.....	.....	3	.....	2	.....	N;W	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico	29.70	754.4	81	27.2	82	27.8	87	NE	.....	.....	0–1	.....	10	.....	Calm	0.01	0.3	.....	.....	Cloudy.....	
Vandalia, N. 35° 45′ E. 29° 53′	29.71‡	754.6‡	.....	.....	87	30.6	72	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Wabash, Boston, Mass.	30.20‡	767.1‡	.....	.....	69	20.6	70	E	7	3.1	.....	.....	8	.....	Calm	0.23	5.8	.....	.....	Cloudy.....	
Wyoming, N. 52° 55′, W. 36° 14′	29.64	752.8	62	16.7	54	12.2	100	W	.....	.....	4	.....	10	.....	Calm	.....	.....	Mod'ate	W	Foggy	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 23° 58′, E. 118° 20′		29.81*	757.2*	80	26.7	96	SSW			3		3		SW	0	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 42° 40′, W. 124° 44′		30.17*	766.3*				Calm			0		0				Mod'ate	W	Clear	Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 7° 7′, W. 80° 59′		29.90†	759.4†	79	26.1	95	SW			2		6		SW	0	Small	WSW	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

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

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, N. 40° 40′, W. 69° 30′		30.22*	767.6*	60	15.6	76	E			3				E	0	None		D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 42° 00′, W. 64° 07′		30.26†	768.6†	60	15.6	??	W			1		Fog				None		Foggy	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

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

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

S. S. Belgic																			
S. S. Gaelic, Yokohoma, Japan		29.67*	753.6*	79	26.1	100	E			4		8		Var.	Blank			Gloomy	Capt. L. Myer.
S. S. Oceanic, N. 32° 16′, E. 133° 34′		30.01	762.2	46	7.8	02	N			3-4		7		WNW		Smooth		D. clouds	Capt. W. H. Kidley.
																			Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

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

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 45° 27′, W. 45° 47′		30.21	767.3	64.0	17.8	78	SSW			3		5		SW			WSW	Foggy	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 50° 49′, W. 16° 10′		30.16*	766.1*	62	16.7	83	NW			7		9		NW	Heavy	Light	NNW	Cloudy	Captain Sargent.
S. S. Ohio, N. 38° 58′ 30″ W. 75° 7′ 48″		30.20	767.1	72	22.2	95	E			3		10		E	0			Foggy	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.11†	764.6†	65	18.3	100	WNW			2		9		W	0			Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the cooperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°, W. 66°		30.07*	763.8*	42.5	5.8	77	Calm			0	0	3ks			0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 13, 1878.

7:35 A. M. WASHINGTON mean time.

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

ALGERIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10.	Clouds. Amount. Up'er (1—10.	Clouds. Amount. Low'r (1—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.03	762.8	71.1	21.7	85	NE	.....	.....	2	.....	8	.....	.....	0	0	Pretty fair..	Dr. Ollive.
Nemours	.....	.....	29.91	759.7	80.1	26.7	76	NNW	.....	.....	1	.....	3	.....	.....	0	0	Pretty fair...	Michel.
Algiers	.....	.....	29.82	757.5	79.9	26.6	72	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Tourillere.
La Calle	.....	.....	29.91	759.8	75.2	24.0	67	ENE	.....	.....	6	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	29.95	760.6	89.6	32.0	44	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.02	762.5	86.0	30.0	.....	ENE	.....	.....	3	.....	10	.....	.....	0	0	Covered.....	Gau.
Saida	.....	.....	29.99	761.7	98.6	37.0	24	SSW	.....	.....	1	.....	4	.....	.....	0	0	Cloudy.....	Herbin.
Tebessa	.....	.....	30.02	762.5	.....	.....	.....	SW	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	30.06	763.5	98.6	37.0	.....	W	.....	.....	5	.....	3	.....	.....	0	0	Pretty fair...	Brugniaux.
Laghouat	.....	.....	29.99	761.8	102.2	39.0	11	W	.....	.....	4	.....	1	.....	.....	0	0	Very fair.....	Bertrand.
Biskra	.....	.....	29.95	760.8	102.7	39 3	.....	ESE	.....	.....	3	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,083? m., or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

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

Agram	29.37	745.9	29.89	759.3	74.1	23.4	67	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. Ivan Stozu.
Cracow, I. R. Observatory	29.07	738.4	29.82	757.3	67.6	19.8	60	W	.....	.....	3	.....	5	.....	.....	0.130	3.3	.....	Dr. Wiersbiski.
Eperies	28.98	736.0	29.83	757.6	65.7	18.7	82	Calm	.....	.....	0	.....	7s	.....	.....	0.266	6.75	.....	Julius Mikolik.
Gratz	28.69	728.7	29.90	759.4	69.3	20.7	45	SW	.....	.....	2	.....	5	.....	.....	0.004	0.10	.....	Andreas Rospini.
Hermannstadt	28.50	723.9	29.87	758.6	72.1	22.3	34	NW	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.54	724.8	29.83	757.7	66.9	19.4	64	SW	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.82	732.1	29.78	756.3	66.0	18.9	71	NW	.....	.....	3	.....	8	.....	.....	0.201	5.1	.....	Dr. T. Stanecki.
Pola	29.76	755.8	29.86	758.5	84.0	28.9	60	W	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.47	748.4	29.91	759.8	68.4	20.2	84	S	.....	.....	4	.....	10	.....	.....	0.012	0.3	Raining.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.78	756.5	29.89	759.1	80.6	27.0	60	WSW	.....	.....	1	.....	2	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.19	741.5	29.88	759.0	70.7	21.5	69	S	.....	.....	1	.....	8	.....	.....	0	0	.....	I. R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

Arlon	28.46	722.9	29.95	760.6	59.4	15.2	71	W	.....	.....	1	.....	10	.....	.....	0.031	0.8	.....	Prof. M. Passau.
Brussels	29.71	754.7	29.91	759.6	65.5	18.6	58	W	.....	.....	3	.....	10	.....	WNW	0	0	.....	Royal Observatory
Furnes	29.97	761.2	29.99	761.8	63.5	17.5	71	NNW	.....	.....	4	.....	5	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.80	756.8	29.92	760.0	66.4	19.1	71	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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

BRITISH SERIES.

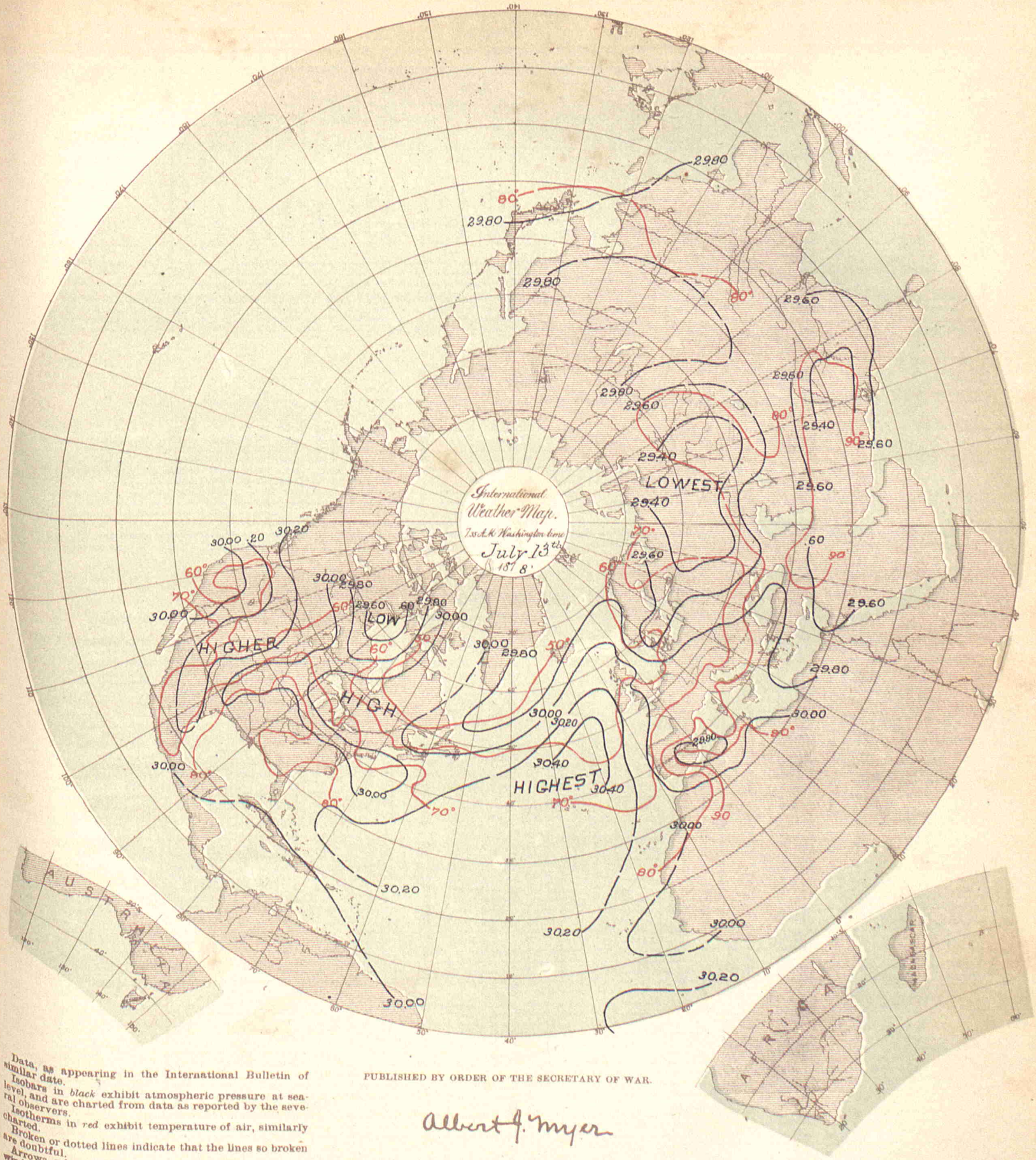
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.99	759.4	30.00	762.0	56.4	13.6	.....	NW	20	8.9	.....	.....	9	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	29.98	761.5	30.00	762.0	66	18.9	.....	W	.....	4	.....	.....	0	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	30.09	764.3	66 0	18.9	.....	N	6	2.7	.....	.....	2	.....	.....	.....	.....	D. clouds.....	S. Cail.
Bidston, (Liverpool Obs.)	.....	.....	30.01	762.2	63.8	17 7	.....	WNW	14	6.3	.....	.....	07	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.09	764.3	70.0	21.1	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.60	751.8	29.99	761.7	66.6	18.9	.....	W	.....	.....	1	.....	7	.....	.....	0.08	2.0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	30.01	762.2	30.04	763.0	85	29.4	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.97	761.2	70.6	21.4	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.00	762.0	66.4	19.1	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.81	757.2	29.94	760.5	67.2	19.6	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky	Lt. W G. Morris, R. E.
Dartmoor	28.62	726.9	30.08	764.0	59.0	15.0	.....	NE	.....	.....	4	.....	5	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.01	763.0	30.07	763.8	63	17.2	.....	N	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.94	760.5	29.96	761.0	63	17.2	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded..	J. Costello.
Eccles, (near Manchester)	.....	.....	29.98	761.5	71.3	21.8	.....	NNW	2.2	1.0	.....	.....	4	.....	.....	.....	.....	D. clouds...	Thomas Mackereth.
Falmouth, Observatory	29.77	756.1	30.00	762.0	62.4	16.9	.....	E	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier, (Natal)	27.42	696.5	29.71	754.6	80.0	26.7	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	D. clouds....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.81	757.2	30.04	763.0	82	27.8	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.07	763.8	69	20.6	.....	NNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.87	758.7	29.92	760.0	76.9	24.9	.....	W	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.78	756.4	29.98	761.5	67.9	19.9	.....	W	.....	.....	4	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.96	761.0	29.96	761 0	61	16.1	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y.	29.80	756.9	29.96	761.0	70.4	21.3	.....	NNE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	29.74	755.4	29.95	760.7	62	16 7	.....	ENE	.....	.....	1	.....	8	.....	.....	.....	.....	Misty.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.02	762.5	69	20.6	.....	E	.....	.....	4	.....	3c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.01	762.2	30.06	763.5	62	16.7	.....	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.68	753.9	29.97	761.2	63.1	17.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	J. Fisher.
Kew, Observatory	.....	.....	29.97	761.2	67.2	19.6	.....	N	10	4.5	.....	.....	4	.....	.....	.....	.....	D. clouds....	The Staff.
Kingstown	30.05	763.3	30.08	764.0	63	17.2	.....	NE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	George Mitchell.
Leicester, Museum	.....	.....	29.97	761.2	67.8	19.9	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.82	757.4	29.89	759.2	84.2	29.0	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt A. H. C.
Nairn	29.94	760.5	30.03	762.7	57	13.9	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.07	763.8	85.8	29.9	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.80	756.9	29.99	761.7	71 0	21.7	.....	NE	.....	.....	4	.....	7k	.....	NE	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.46	748.3	29.57	761.2	67.2	19.6	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Hazy.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.91	759 7	78	25.6	.....	N	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	H.E. Bellamy.
Plymouth	29.90	759.4	29.98	761.5	65.0	18.3	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds..	John Merrifield.
Roche's Point	30.03	762.7	30.07	763.8	67	19.4	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ana's Head	29.86	758.4	30.02	762.5	67	19.4	.....	SE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, Orkneys	.....	.....	30.01	762.2	53.4	11.9	.....	WNW	20	8.9	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.79	756.7	86.8	30.4	.....	N	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.73	755.1	30.00	762.0	68.1	20.1	.....	NE	.....	.....	1	.....	6	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	29.95	760.7	29.98	761.5	75.0	23.9	52	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.59	751.6	30.00	762.0	67.0	19 4	.....	W	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	30.02	762.5	30.05	763.3	55	12.8	.....	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.76	755.9	29.98	761.5	68.1	20.1	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.01	762.2	54	12.2	.....	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.99	761.7	71	21.7	.....	SE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.10	764.5	65.0	18.3	.....	N	18	8.0	.....	.....	4	.....	.....	.....	.....	D. clouds....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.92	760.0	55.0	12.8	86	SW	.....	.....	3	.....	7k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.06	763.5	30.26	768.5	72.2	22 3	73	ESE	17.5	7.8	.....	1	6	.....	SE	0 12	3 0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.02	762.5	30.11	764.8	41.0	5.0	91	WSW	2	0.9	.....	.....	3	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, Hebrides	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclance.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 42° 35′ W. 56° 25′	2	.....	D. clouds....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 61° 12′, W. 48° 10′	.....	.....	D. clouds....	Capt. Alex Simpson.
Barque Virginia, N. 47° 50′, W. 37° 55′	3	SW	Overcast....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 330 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.18	665.0			67.6	19.8	92	NE			1	4s	6s			Inap.	Inap.		Federico Maison

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

DANISH SERIES.

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

Copenhagen	29.62	752.3	29.67	753.5	61.2	16.2	61	WSW			2		10						
Fanöe	29.63	753.0	29.70	754.4	57.4	14.1	81	W			6		10						
Godthaab, (Greenland)	29.91	759.6	29.95	760.7	43.2	6.2		S			2		10					Raining	
Stykkisholm, (Iceland)	29.74	755.5	29.79	756.6	54.3	12.4	76	S			8		8						
Thorshavn, (Faröe)	29.96	761.0	30.00	761.9	56.7	13.7	74	NW			2		7						
Vestervig	29.47	748.4	29.63	752.7	58.6	14.8	96	WSW			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.43	747.5	29.98	761.5	66.2	19	77	W			1		10			0.020	0.5	Covered	Collignon, Director.
Amiens, Normal School	29.82	757.5	29.93	760.2	63.0	17.2	88	W			2		0			0	0	Clear.	Bonvallet, Director.
Avignon, Normal School	29.80	756.9	29.88	758.9	83.1	28.4	33	N			2		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.38	746.2	29.93	760.1	69.3	20.7	60	SW			1		10			Inap.	Inap.	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.69	754.2	29.97	761.3	60.8	16	88	E			1		10		E	0.12	3.	Covered	Normal School.
Besançon	29.11	739.5	29.98	761.4	71.6	22	58	E			4				SW	0	0		Normal School.
Bourg-en-Bresse	29.08	738.7	30.01	762.2	75.7	24.3	56	N			6		2k		N	0	0	Slightly cl'dy	Normal School.
Bourges, Normal School	29.35	745.6	29.94	760.5	73.0	22.8	63	W			2		k		W	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.65	753.0	29.89	759.2	65.1	18.4	90	NE			2		10		NE	0.098	2.50	Raining	The Staff.
Carcassonne, Normal School	29.45	747.9	29.84	757.9	83.1	28.4	33	E			4		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.33	745.0	29.88	759.0	68.0	20	87	NW			2		10		E	0	0	Covered	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.63	752.5	29.94	760.5	63.0	17.2	83	Calm			0		10ck			0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.3	29.85	758.1	75.6	24.2	49	E			1		8		SW	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.13	739.9	29.99	761.7	62.6	17	86	NW			6		10		SE	0	0	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.83	732.2	29.97	761.2	80.6	27.0	32	S			2		2		SE	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.71	754.6	29.92	759.9	70.2	21.2	65	W			2		5		E	0	0	Cloudy	Moullot, Director.
Le Mans, Normal School	29.65	753.0	29.95	760.6	66.4	19.1	83	SW			2		8		W	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.11	739.4	30.00	761.9	72.1	22.3	48	NE			2		2		SW	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.82	757.5	29.92	760.0	74.1	23.4	70	S			2		5		SW	0.028	0.7	⅛ covered	T. Carré, Director.
Mâcon, Normal School	29.39	745.8	30.03	762.7	71.8	22.1	74	NE			4		5		NE	0	0	Cloudy	M. Galzin, Director.
Mirecourt	28.90	734.0	29.91	759.7	65.7	18.7	78	SW			2		8		NE	0	0	Very cloudy	Normal School
Nismes, Normal School	29.67	753.6	29.86	758.4	91.8	33.2	23	S			2		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.53	750.0	29.90	759.4	71.6	22	78	W			2		10			0	0	Covered	Bernard, Director.
Paris, Observatory	29.70	754.3	29.93	760.3	59.2	15.1	95	NE			2		10		NNE			Raining	National Observatory.
Privas	28.91	734.3	29.93	760.3	74.3	23.5	47	N			2		1		N	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	29.86	758.5	29.89	759.3	78.4	25.8	45	SE			2		2		SE	0	0	¼ covered	Lt. Decante, Director.
Rouen, Normal School	29.87	758.7	29.96	760.9	62.6	17.0	84	NNE			1		10		NE	0.370	9.4	Covered	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.89	733.9	29.95	760.8	64.4	18	80	W			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.18	741.2	29.86	758.4	78.4	25.8	72	ENE			1		5		S	0	0	Cloudy	M. Gausserand, Director.
SUB-STATIONS.																			
Fort de France, Martinique	29.93		760.1	84.2	29											0.39	10.		L'Abbé Marchési.
Lyons			29.95	760.8	76.6	24.8	43						8			0	0		L. Jays.
Marseilles, Observatory			29.89	759.2	78.4	25.8	44	NW			1		1			0	0		The Staff.
Mont-Louis	24.89	632.2	30.21	767.2	71.6	22.0	38	SSW	5.6	2.50			0			0	0		M. Cave.
Nice			29.91	759.7	73.4	23.0	74	E			4		0			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.65	753.1	29.93	760.1	68.1	14.5	100	NNE			3		10			0.244	6.2	Raining	Marié Davy, Director.
Perpignan			29.89	759.2	74.3	23.5	66	SE	13.0	5.83			0			0.134	3.4		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.57	573.2			57.2	14.0		SW			3		3			0	0	Fair	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.77	756.2	29.94	760.4	60.1	15.6	97	NNE			1		10			0.606	15.4	Raining	E. Renou.
Toulouse, Observatory	29.18	741.2	29.90	759.5	78.8	26.0	43	SE			1		2			0.069	1.75		The Staff.
Tours	29.70	754.4	29.90	759.4	71.6	22.0	67	W			1		8		WNW	0.024	0.6		C. Marquet.
Versailles, (near Paris)			29.95	760.7	60.1	15.6	82	NW			2		10			0.284	7.19	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.76	755.8	29.78	756.4	72.7	22.6	93	E	5.1	2.3		3c				0.047	1.2	Fair	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,437 m.; or 4,813.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,386.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,333 m., or 7,763.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.00	736.7	29.84	758.0	61.3	16.3	76	W			4		7	W		0.08	2.	Raining	Prof. Dr. Hoh.
Berlin	29.63	752.6	29.80	756.8	67.6	19.8	49	NW			1		3			0.039	1.0		Prof. Arndt.
Breslau	29.35	745.5	29.88	758.9	63.7	17.6	70	WNW			3		9			0.038	0.95		Royal University Obs'y
Carlsruhe	29.49	749.0	29.91	759.6	68.0	20.0	75	WSW			1		10			0.374	9.5		Albert Senz.
Cassel	29.27	743.4	29.87	758.8	66.9	19.4	63	N			2		5	WNW		0	0		Dr. H. Möhl.
Crefeld	29.71	754.6	29.87	758.7	68.0	20.0	56	NW			2		7k			0	0		Director Lose.
Emden	29.84	757.9	29.88	758.9	57.6	14.2	78	NW			5		8			0.051	1.3		Prof. Prestel.
Frankfort on the Main	29.60	751.8	29.95	760.8	68.4	20.2		SW			2		6			0.035	0.9		Physical Society.
Friedrichshafen	28.51	724.2	29.91	759.6	66.4	19.1	68	S			2		7	W		0.236	6.0		M. Wilhelm.
Hamburg	29.74	755.3	29.81	757.1	60.1	15.6	83	NW			3		10ks			0	0	Fair	Captain F. Hegemann.
Kiel	29.72	754.9	29.74	755.4	62.8	17.1	62	W			5		7			0.360	9.14		Prof. G. Karsten.
Königsberg, (Prussia)	29.61	752.0	29.69	754.0	62.6	17.0	80	SW			2		4			0.256	6.5		Prof. E Luther.
Köslin			29.78	756.3	66.9	19.4		NW			2		4			0	0		H. Müller.
Leipsic, Observatory	29.46	748.3	29.87	758.8	60 8	16.0	79	SW			1		10			0.087	2.2	Raining	Prof. Bruhns.
Memel, Naval School	29.65	753.0	29.69	754.2	65.1	18.4	67	W			2		7c						Reinbrecht and Skalweit.
Neufahrwasser	29.70	754.3	29.71	754.7	66.2	19.0	66	NW			3		8	W;NW		0.075	1.9		A. Lothes.
Posen	29.57	751.1	29.85	758.3	66.6	19.2	46	NW			8		4			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	29.40	746.7	29.93	760.2	69.6	20.9	68	Calm			0		9	WNW		0.006	0.16		Astronomical Observatory.
Stuttgart	28.97	735.9	29.89	759.1	66.2	19.0	72	N			1		6	W		0.756	19.2		Prof. Schoder.
Treves, (Trier)	29.29	743.9	29.81	757.1	64.9	18.3	67	W			1		10			0.042	1.06	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.43	722.2	29.89	759.1	62.1	16.7	71	NW	2	1			10		W	0.039	1.0	Raining	Dr. Von Bebber.
Wustrow, Naval School	29.74	755.4	29.78	756.4	63.3	17.4	62	WSW			4		8			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.42	747.2	29.78	756.4	98.8	37.1		SW			2.5							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

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

Kurrachee	29.50	749.2	29.54	750.4	85.5	29.9	72	WSW	32?	14.3?			9		WSW	0	0	D. clouds	
Deesa	29.12	739.6	29.58	751.3	92.8	33.8	54	S					4		SSW	0	0	Misty	
Bombay	29.65	753.2	29.69	754.1	83.9	28.8	84	WNW	11	4.9			10		WSW	0.61	15.5	Overcast	
Poona	27.67	702.7	29.67	753.6	74.8	23.8	82	SW					10		SW	0	0	Overcast	
Lahore	28.64	727.6	29.35	745.5	99.2	37.3	45	SE	2.4	1.1			0			0	0	Misty	
Belgaum	27.24	691.8	29.77	756.0	76.1	24.5	78	W	5	2.2			7		W	0.01	0.3	D. clouds	
Bangalore																0	0		
Roorkee	28.53	724.7	29.39	746.5	92.2	33.4	61	NW	2.0	0.9			1			0	0		
Agra	28.94	735.0	29.49	749.0	85.7	29.8	72	N	10	4.5					N				
Trichinopoly																			
Nagpur	28.56	725.3	29.58	751.4	83.5	28.6	77	SW	4.1	1.8			9		E	0.08	2.0	Drizzling	
Madras																			
Lucknow	29.08	738.7	29.44	747.8	92.2	33.4	66	NNE	2.7	1.2			8		W	0.57	14.5	D. clouds	
Allahabad	29.18	741.2	29.49	749.0	84.5	29.2	79	SW	3.0	1.3			9	W		0.04	1.0	D. clouds	
Patna	29.30	744.3	29.48	748.8	89.2	31.8	73	W	0.9	0.4			8	W	W	0	0	D. clouds	
Hazaribagh	27.55	699.8	29.53	750.0	81.8	27.7	81	SW	8.9	4.0			9			0.14	3.6	Showery	
Cuttack	29.50	749.2	29.67	751.2	90.1	32.3	66	S	3.9	1.7			4			0	0	D. clouds	
Calcutta (Alipore)	29.71	754.6	29.73	755.1	85.4	29.7	85	SW	8.0	3.6			7		S	0	0	D. clouds	
Goalpara																			
Chittagong	29.67	753.7	29.76	756.0	81.9	27.7	91	Calm	4.1	1.8			8			0	0	Threatening	
Sibsagar	29.21	741.8	29.53	750.2	86.4	30.2	80	NW	1.9	0.8			10	W	W	0	0	Overcast	
Rangoon																			
Jubbulpore	28.32	719.3	29.67	753.6	81.5	27.5	83	SSW	5.7	2.6			6	W	W	2.00	50.8	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft.. or 411.8 m.

ITALIAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0 to 10	Clouds. Amount. Low'r 0 to 10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.49	749.1	29.89	759.1	76.1	24.5	65	S	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.76	755 9	29.87	758.6	79.0	26.1	59	SE	2.5	1.1	.....	.....	5	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.69	754.0	29.87	758.6	78.4	25.8	52	SE	1.3	0.6	.....	.....	4	W	.....	0.043	1.1	.....	Conte Alm. Da Schio.
Bergamo	28.60	726.4	29.86	758.5	80.6	27.0	54	WSW	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.36	745.8	29.85	758.3	80.8	27.1	.....	ENE	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.99	736.3	29.85	758.2	79.2	26.2	51	E	6.3	2.8	.....	.....	8	SE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.01	711.4	29.83	757.6	76.8	24.9	66	E	.....	.....	4	.....	1	WSW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.69	754.2	29.91	759.7	70.7	21.5	77	E	.....	.....	6	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.77	756 1	29.93	760.3	74.7	23.7	55	SE	10.5	4.7	.....	.....	1	S	.....	0.055	1.4	.....	Prof. G. M. Garibaldi.
Parma	29.56	750.7	29.85	758.3	79.5	26.4	53	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.65	753.2	29.90	759.5	80.6	27.0	39	SW	.....	.....	2	.....	1	SW	.....	0	0	.....	Cav. F Meucci.
Leghorn	29.84	757.8	29.92	759.9	78.1	25.6	56	NNW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.82	757.5	29.87	758.7	77.7	25.4	59	NE	.....	.....	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.38	720.9	29.87	758.7	79.9	26.6	37	SW	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.77	756.2	29.88	758.9	80.2	26.8	45	SW	.....	.....	6	.....	1	.....	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.75	755.6	29.92	759.9	80.2	26.8	52	WSW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.71	754.7	29.91	759.6	81.5	27.5	43	WNW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	84.7	29.3	41	ENE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.72	754.9	29.91	759.6	79.0	26.1	55	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.02	737.2	29.86	758.4	91.0	32.8	55	SW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.71	754.5	29.95	760.7	77.2	25.1	72	ENE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.75	755.7	29.83	757.6	79.9	26.6	75	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	746.9	29.96	761.0	79.2	26.2	55	ESE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.7 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.57	751.1	29.77	756.1	76.9	24.9	69	SW	16.0	7.1	.....	.....	10n;s	.....	SW	.....	.....	Cloudy	
Tokei (Yeddo)	29.81	757.2	29.88	758.9	75.4	24.1	92	S	3.5	1.6	.....	.....	6ck;s	.....	W	0.036	0.91	.....	The Observatory.
Tokei (Yeddo) University	29.76	755.9	29.86	758.4	76	24.4	93	Calm	0	0	.....	8ck	1k	W	.....	0.04	1.0	Clearing	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

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

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.2	17.9	81	NW	0.9	0.4	.....	6c	1s	.....	.....	0.62	15.6	Cloudy	L. Castillo, A. E.
Guadalajara	25.14	638.5	30.11	764 7	58 6	14.8	88	SW	0.9	0.4	.....	0	4	.....	SE	0.94	23.8	½ cloudy	Prof. L. Perez.
Guanajuato	23.63	600.3	29.75	755.8	63.5	17.5	78	Calm	0	0	.....	0	6	.....	.....	0	0	½ cloudy	Prof. V. Fernandez
Leon	.....	.....	.....	.....	66.2	19.0	80	NW	1.8	0.8	.....	2c	1k	NE	.....	0	0	Clear	Prof. M. Leal.
Mexico	23.19	588.9	30.20	767.1	57.2	14.0	90	NW	1.1	0.5	.....	0	10k	.....	NE	0.31	7.8	Covered	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalits)	.....	.....	.....	.....	63 3	17.4	79	NW	0.9	0.4	.....	0	9k	.....	E	0	0	Very cloudy	M. V. de Leon, M. E.
Puebla	23.41	594.6	30.11	764.7	53.8	12.1	88	NE	2.2	1.0	.....	4ck	4n	.....	.....	0.08	2.0	Cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	30.01	762.1	30.02	762.4	75.2	24.0	96	N	1.8	0.8	.....	0	10n	.....	NNE	1.10	28.0	Overcast	Prof. F. R. Bayly.
San Luis Potosi	24.34	618.0	30.32	770.1	61.0	16.1	81	E	0.9	0.4	.....	.....	10n	.....	E	0.02	0.5	Threatening	G. Barroeta, M. D.
Vera-Cruz	30.08	764.1	30.11	764 8	78.8	26.0	85	ESE	15.0	6.7	.....	0	10n	.....	E	0.24	6.0	Rainy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	51	NNE	1.8	0.8	.....	0	10	.....	.....	.....	.....	Overcast	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.34	593 0	30.08	764.0	51.8	11.0	94	N	8.4	1.5	.....	1	2	.....	.....	0.21	5.4	Clear	Prof. P. Spina. (M.M. D. D
Morelia	24.16	614.0	.....	.....	64.4	18.0	66	N	.....	.....	.....	0	10k	.....	.....	0.34	8.7	Covered	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E
San Juan E. Michapam	28.36	720.3	30.00	761.9	77.5	25.3	71	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,881 m., or 6,104.4 ft.; Cordoba, 838 m., or 3,741.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.4 ft.; Leon, 1,774 m., or 5,821 ft.; Mexico, 2,283.3 m., or 7,488.1 ft.; Orizaba, 1,221 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft; Toluca, 2,625 m., or 8,611.3 ft.; San Luis Potosi, 1,803 m., or 5,310.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.3 ft.; Morelia, 1,940 m., or 6,36 ,5 ft; Durango, 1,870 m., or 6,135 ft.; Colima, 512.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m, local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

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

Flushing	29.96	761.0	29.96	761.0	64 6	18.2	.....	NW	.....	.....	4	.....	.....	.....	.....	0.035	0.9	.....	
Groningen	29.80	756.8	29.85	758.2	62.4	16 9	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.88	759.0	29.88	759.0	60.1	15.6	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.91	759.8	29.91	759.8	65.3	18.5	62	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.87	758.6	29.91	759 8	68 2	20.1	58	WNW	.....	.....	3	.....	5	.....	.....	0.004	0.1	Cloudy	H. v d Brink.

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

NORWEGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.60	751.9	29.66	753.3	60.8	16.0	69	NW	9.6	4.3	.....	.....	0	.....	.....	0	0	.....	.....
Brönö	29.68	753.9	29.72	754.9	67.6	19.8	49	NNE	18	8	.....	.....	8	.....	.....	0	0.	.....	
Christiania	29.43	747.5	29.57	751.1	66.2	19.0	58	SSE	11	5	.....	.....	10	.....	.....	0.020	0.5	.....	
Tromsö	29.70	754.3	29.74	755.4	67.3	19.6	50	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....

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

PORTUGUESE SERIES.

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

Angra, (Azores)	30.21	767.3	30.40	772.1	72.9	22.7	81	N	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.88	733.6	29.85	758.1	86.9	30.5	25	WNW	12.5	5.6	.....	.....	4	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.07	763.7	30.15	765.9	74.3	23.5	56	WSW	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.64	752.8	29.99	761.8	70.3	21.3	72	NNW	11.2	5.0	.....	.....	7	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.31	769.9	30.38	771.7	74.8	23.8	70	NNE	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	

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

Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—																		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	30.07	763.8	71.2	21.8	.....	NW	.....	.....	1	.....	2	.....	.....	1	.....	D. clouds	.....	A. J. de Mattos, Com'd't.
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.04	762.9	82.4	28.0	.....	N	.....	.....	4	.....	0	.....	.....	3	NNE	Blue sky	.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	29.95	760.7	82.0	27.8	.....	NE	.....	.....	2	.....	10	.....	Calm	2	SE	Overcast	.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.98	761.6	71.1	21.7	.....	NW	.....	.....	1	.....	2	.....	.....	1	.....	D. clouds	.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

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

Warsaw	29.84	745.3	29.75	755.7	64.9	18 3	63	WNW	13	6	.....	.....	9ks;n	.....	.....	.....	.....	Light rain	Astronomical Obs.
Wilna	29.26	743.1	29.66	753.3	66.6	19.2	55	SW	7	3	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.37	746.0	29.60	751 9	68.0	20.0	48	W	7	3	.....	.....	10ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.48	748.9	29.50	749.3	66.6	19.2	82	NW	7	3	.....	.....	7n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsteg.
Kieff	29.08	738.5	29.39	754.0	65.3	18.5	60	NW	7	3	.....	.....	6k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.71	754.6	29.78	756.4	79.9	26.6	53	NW	18	8	.....	.....	4k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.76	755.9	29.78	756.4	81.0	27.2	57	W	9	4	.....	.....	4	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	28.95	735.4	29.48	748.9	59.9	15.5	94	N	9	4	.....	.....	8ks	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.37	745.9	29.57	751.0	65.5	18.6	80	WNW	18	8	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Archangel	29.61	749.6	29.53	750.1	77.0	25.0	41	N	9	4	.....	.....	1c	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.37	720.7	29.69	754.2	90.1	32.3	32	N	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.70	754.4	29.62	752.3	82.6	28.1	43	SSW	18	8	.....	.....	8ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.15	740.5	29.41	747.0	71.2	21.8	82	Calm	0	0	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[ks	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.48	723.5	29.37	746.1	72.5	22.5	53	ESE	4	2	.....	.....	4k;ck;	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.51	749.6	29.77	756.2	83.7	28.7	64	NNW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.08	713.3	29.69	754.1	79.0	26.1	53	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.00	736.7	29.48	748.9	84.7	29.3	35	SE	0	0	.....	.....	7	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.28	743.6	29.55	750.5	79.7	26.5	64	S	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.47	748.4	29.61	752.0	79.0	26.1	60	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

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

Barcelona, Met. Obs'y	29.78	756.4	29.88	759.0	81.1	27.3	62	S	3.5	1.56	.....	4	1	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.78	756.4	29.84	757.8	78.3	25.7	59	NW	2.4	1.09	.....	5	0	SW	.....	0	0	Cloudy.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.94	684.3	.....	.....	82.9	28.3	47	SW	4.8	2.16	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.62	701.6	29.68	753.8	91.8	33.2	25	SW	14.1	6.33	.....	0	0	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.71	754.5	29.85	758.1	94.1	34.5	36	SE	4.9	2.19	.....	.....	.....	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.96	735.6	29.84	757 9	64.2	17.9	85	NW	22.4	10.00	.....	.....	10	.....	.....	0.244	6.2	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.01	762.2	30.07	763.9	82.2	27.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.2	29.94	760.6	76.5	24.7	72	WSW	15.7	7.0	.....	0	4	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.8	30.04	763.1	84.6	29.2	85	SE	5.7	2.56	.....	7k	4kn	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

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

SWEDISH SERIES.

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

STATION.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahr-nheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.70	754.4	29.74	755.4	73.4	23.0	.....	NE	.....	.....	2	.....	6	.....	.....	0.157	4.0	.....	
Umea	29.67	753.5	29.72	754.8	65.1	18.4	67	NNE	.....	.....	2	.....	7	.....	.....	0.268	6.8	.....	
Hernosand	29.62	752.3	29.67	753.6	57.9	14.4	91	ENE	.....	.....	4	.....	5	.....	.....	0.336	8.5	.....	
Stockholm	29.45	747.9	29.62	752.4	69.4	15.2	83	SE	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	
Wisby	29.54	750.3	29.60	751.8	62.6	17.0	80	NW	.....	.....	2	.....	10	.....	.....	0.126	3.2	.....	
Sub-Series.																			
Upsala	29.54	750.3	29.61	752.2	62.1	16.7	61	E	5.1	2.3	.....	.....	10	.....	S	0	0	.....	Dr. Hildebrandsson.

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

SWISS SERIES.

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

Geneva	28.50	724.0	29.88	759.0	70.3	21.3	56	NE	.....	.....	1	.....	7c	.....	.....	0	0	.....	The Observatory.
Zurich	28.34	719.7	29.92	760.0	69.1	20.6	63	W	.....	.....	2	.....	8	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer. —3.5 mm.; Thermometer, —1.2 cent.; Relative Humidity, +3 per cent.

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

TURKISH SERIES.

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

Constantinople	.....	.....	29.84	758.0	81.0	27.2	64	NNE	18	8.0	.....	.....	8	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.03	762.8	83.7	28.7	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.56	750.8	29.67	753.6	87.4	30.8	74	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

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

Bathurst, N. B	29.88	758.9	29.95	760.7	65.9	18.8	78	NE	5	2.2	.....	2c	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.78	756.4	30.07	763.8	76	24.4	.....	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.90	759.4	29.96	761.0	60	15.6	91	SW	4	1.8	.....	5k	5ks	SW	SW	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.96	761.0	30.00	762.0	66	18.9	80	SW	6	2.7	.....	0	5ks	.....	SW	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.84	757.9	30.03	762.7	65.6	18.8	82	NE	.....	.....	1	0	1s	Calm	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.79	756.7	29.85	758.2	65	18.3	77	Calm	.....	.....	0	.....	.....	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	30.12	765.0	30.16	766.1	54.2	12.3	100	W	.....	.....	.....	4cs	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.97	761.2	57	13.9	84	N	10	4.5	.....	Haze	2ks	E	E	0	0	Hazy	J. McWilliams.
Fredericton, N. B	29.97	761.2	30.03	762.7	65 9	18.8	74	SW	3	1.3	.....	1k	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.28	743.7	30.07	763.8	68	20.0	79	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.04	737.6	30.10	764.5	68	20.0	89	N	.....	.....	1	0	0	.....	.....	0.36	9.1	Clear	James Grant.
*Halifax, N. S	29.91	759.7	30.04	763.0	67	19.4	75	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.77	756.1	30.13	765.3	68.3	20.2	80	E	.....	.....	3	2c	0	W	.....	0.45	11.4	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	30.00	762.0	30.03	762.7	63	17.2	52	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.75	755.6	30.03	764.0	74	23.3	64	N	1	0.4	.....	0	Sm'e	.....	N	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.96	761.0	30.00	762.0	70.7	21.5	.....	SW	4	1.8	.....	6c	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.84	757.9	30.03	762.7	74	23.3	41	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.44	747.8	30.11	764.8	71	21.7	87	W	8	1.3	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.06	764.0	75.7	24.3	68	SW	.....	.....	1	0	0	.....	.....	0	0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.43	747.5	30.10	764.5	64	17.8	100	Calm	0	0	.....	0	0	.....	.....	0.41	10.4	Clear	H. Morgan.
Port Hastings, N. S	29.99	761.7	30.04	763.0	66.6	19 2	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.47	748.5	30.10	764.5	68	20.0	88	N	7	3.1	.....	0	0	.....	.....	0.18	4.6	Clear	M. Payne.
*Quebec, Quebec	29.71	754.6	30.03	762.7	64	17.8	83	Calm	.....	.....	0	Haze	0	.....	.....	0	0	Hazy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.65	753.1	30.09	764.3	68	20.0	74	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.97	761.2	30.02	762.5	63	17.2	85	S	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.92	760.0	30.03	764.0	57	13.9	97	S	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.42	747.3	30.11	764.8	72	22.2	81	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.36	745.5	30.11	764.8	68	20.0	94	NE	1	0.4	.....	8k	0	N	.....	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.85	732.8	30.10	764.5	62.9	17.2	98	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.99	761.7	30.02	762.5	70	21.1	66	SW	10	4.5	.....	0	2ks	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.73	755.1	30.10	764.5	71	21.7	79	N	9	4.0	.....	0	0	.....	.....	0.22	5.6	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	70.0	21.1	52	SW	.....	.....	.....	0	0	.....	.....	Inap.	Inap.	Fair	John Delany.

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

UNITED STATES SERIES.

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

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

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters	TEMPERATURE OF THE AIR. Fahrenheit	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Upper. 0–10.	CLOUDS. Amount. Low'r. 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.78	756.4	30.00	762.0	67	19.4	89	N	6	2.7	.....	0	5ks	... .	N	0.21	5.3	Fair	
Alpena, Michigan	29.24	742.7	30.07	763.8	63	17.2	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	69	20.6	95	NE	14	6.3	.....	.....	10s	.....	Calm	1.35	34.3	Cloudy	
Augusta, Georgia	29.96	761.0	30.14	765.5	82	27.8	79	SE	1	0.4	.....	.....	10ks;s	.....	SW;S	0.01	0.3	Cloudy	
Baltimore, Maryland	29.94	760.5	29.93	760.1	77	25.0	75	N	5	2.2	.....	5c;k	0	NW	.....	1.39	35.3	Fair	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	66	18.9	94	N	13	7.2	.....	.....	10n	.....	N	1.59	40.4	Light rain	
Bismarck, Dakota	28.27	718.0	30.12	765.0	68	20.0	74	Calm	0	0	.....	.....	Sm'e	.....	.....	0	0	Smoky	
BoiseCity, Idaho	27.24	691.9	30.12	765.0	60	15.6	59	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.86	758.4	30.01	762.2	63	17.2	97	NE	11	4.9	.....	.....	10s;fg	.....	NE	0.04	1.0	Cloudy	
Brackettville, Texas	28.97	735.8	29.98	761.5	79	26.1	82	SE	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Breckenridge, Minnesota	29.03	737.3	29.97	761.2	76	24.4	86	NE	5	2.2	.....	0	0	.....	.....	0.20	5.1	Clear	
Brownsville, Texas	30.03	762.7	30.10	764.5	79	26.1	90	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Buffalo, New York	29.38	746.2	30.06	763.5	68	20.0	84	NE	3	1.3	.....	1k	0	E	.....	1.28	32.5	Clear	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	69	E	.....	.....	1	5cs	5s	Calm	E	0.03	0.8	Cloudy	
Burlington, Vermont	29.80	756.9	30.05	763.3	66	18.9	68	Calm	0	0	.....	0	Haze	....	.....	0	0	Clear	
Cairo, Illinois	29.72	754.9	30.08	764.0	88	31.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	65	NE	.....	.....	1	5k	0	S	.....	Blank	Blank	Fair	
Camp Grant, Arizona	25.30	642.6	30.10	764.5	68	20.0	65	NE	.....	.....	1	2c	0	Calm	.....	0.57	14.5	Fair	
Camp Verde, Arizona	26.83	681.5	30.32	770.1	77	25.0	69	Calm	.....	.....	0	5cs	0	Calm	.....	0	0	Fair	
Campo, California	27.35	694.7	29.92	760.0	63	17.2	88	Calm	.....	.....	0	.....	10s	.....	E	0	0	Cloudy	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	79	26.1	82	SW	17	7.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Henry, Virginia	29.95	760.7	29.97	761.2	81	27.2	74	W	12	5.4	.....	2ck	8s	W	W	0	0	Cloudy	
Cape Lookout, N. Carolina	30.06	763.5	30.08	764.0	81	27.2	83	W	20	8.9	.....	5cs	5ks	E	W	0	0	Cloudy	
Cape May, New Jersey	29.94	760.5	29.97	761.2	73	22.8	90	N	16	7.2	.....	.....	10s	.....	N	0.84	21.3	Cloudy	
Charleston, South Carolina	30.10	764.5	30.16	766.1	80	26.7	91	W	4	1.8	.....	.....	10n	.....	Calm	0.86	21.8	Heavy rain	
Cheyenne, Wyoming	24.29	617.0	30.23	767.8	57	13.9	81	NW	12	5.4	.....	5ck	0	S	.....	0	0	Fair	
Chicago, Illinois	29.34	745.2	30.00	762.0	71	21.7	90	NE	7	3.1	.....	.....	10s	.....	NE	0	0	Cloudy	
Cincinnati Ohio	29.37	746.0	29.99	761.7	79	26.1	78	S	6	2.7	.....	5k	4ks	W	NW	1.14	29.0	Cloudy	
Cleveland, Ohio	29.35	745.5	30.05	763.3	70	21.1	85	NE	4	1.8	.....	.....	10ks	.....	W	0.01	0.3	Cloudy	
Columbus, Ohio	29.21	741.9	29.96	761.0	77	25.0	82	Calm	.....	.....	0	2cs	0	Calm	.....	0	0	Clear	
Conceno, Texas	28.22	716.8	29.84	757.9	72	22.2	75	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Corsicana, Texas	29.63	752.6	30.07	763.8	80	26.7	87	Calm	0	0	.....	2cs	2s	Calm	SE	0	0	Fair	
Davenport, Iowa	29.43	747.5	30.03	762.7	78	25.6	82	NE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.30	744.2	30.05	763.3	84	28.9	79	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	25.01	635.2	30.23	767.8	67	19.4	69	SW	2	0.9	.....	0	5s	.....	Calm	0.05	1.3	Fair	
Detroit, Michigan	29.41	747.0	30.05	763.3	72	22.2	85	NE	6	2.7	.....	.....	10s	....	W	0.39	9.9	Cloudy	
Dodge City, Kansas	27.54	699.5	29.71	754.6	77	25.0	69	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.39	746.5	30.06	763.5	77	25.0	82	NE	2	0.9	.....	Haze	5ks	Calm	Calm	0	0	Fair	
Duluth, Minnesota	29.38	746.2	30.04	763.0	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Eagle Pass, Texas	29.30	744.2	30.02	762.5	77	25.0	91	Calm	0	0	.....	0	0	.....	.....	0.27	6.9	Clear	
Eastport, Maine	29.96	761.0	30.02	762.5	56	13.3	87	S	4	1.8	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
El Paso, Texas	.....	.....	.....	.....	84	28.9	37	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.36	745.7	30.05	763.3	70	21.1	85	NE	6	2.7	.....	.....	10ks	.....	NE	0.22	5.6	Cloudy	
Escanaba, Michigan	29.47	748.5	30.10	764.5	69	20.6	80	N	3	1.3	.....	2k	0	N	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	78	25.6	73	Calm	.....	.....	0	5cs	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.37	644.4	30.33	770.4	70	21.1	67	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.56	750.8	30.07	763.8	84	28.9	75	S	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Fort Griffin, Texas	28.84	732.5	30.07	763.8	75	23.9	86	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.91	734.3	29.96	761.0	81	27.2	78	S	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Galveston, Texas	30.05	763.5	30.10	764.5	80	26.7	78	S	10	4.5	.....	.....	10ks	.....	E	0.45	11.4	Cloudy	
Grand Haven, Michigan	29.42	747.3	30.04	763.0	75	23.9	77	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.25	742.9	29.98	761.5	81	27.2	83	N	2	0.9	.....	2k	2s	Calm	Calm	1.07	27.2	Fair	
Indianola, Texas	30.07	763.8	30.10	764.5	80	26.7	87	NW	4	1.8	.....	10ck;cs	0	NE;Calm	.....	0	0	Cloudy	
Jacksboro, Texas	28.97	735.8	30.05	763.3	80	26.7	78	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.10	764.5	30.12	765.0	84	28.9	83	S	7	3.1	.....	5k	0	S	.....	0 01	0.3	Fair	
Keokuk, Iowa	29.41	747.0	29.98	761.5	86	30.0	68	NW	2	0.9	.....	2k	0	NW	....	0	0	Fair	
Key West, Florida	30.04	763.0	30.07	763.8	85	29.4	76	E	6	2.7	.....	0	5ks	.....	E	0.01	0.3	Fair	
Kittyhawk, North Carolina	29.99	761.7	30.02	762.5	79	26.1	82	W	20	8.9	.....	2ck	8s	W	NW	0	0	Cloudy	
Knoxville, Tennessee	29.16	740.7	30.12	765.0	78	25.6	78	SW	4	1.8	.....	8c;cs	0	NE	.....	0	0	Fair	
La Crosse, Wisconsin	29.35	745.5	30.06	763.5	74	23.3	90	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.17	664.7	30.32	770.1	70	21.1	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.68	753.9	30.01	762.2	78	25.6	86	Calm	0	0	.....	5c	0	Calm	.....	0.14	3.6	Fair	
Lead City, Dakota	25.04	636.0	.....	.....	70	21.1	61	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.23	742.4	30.03	762.7	80	26.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.60	751.8	29.94	760.5	57	13.9	75	N	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Louisville, Kentucky	29.47	748.5	30.01	762.0	84	28.9	71	SW	6	2.7	.....	5c	2s	SW	SW	0	0	Fair	
Lynchburg, Virginia	29.35	745.5	30.00	762.0	78	25.6	86	NW	6	2.7	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Marquette, Michigan	29.39	746.5	30.07	763.8	71	21.7	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.49	723.6	30.06	763.5	84	28.9	53	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Fair	
Memphis, Tennessee	29.78	756.4	30.08	764.0	84	28.9	75	NE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.35	745.5	30.05	763.3	70	21.1	90	NE	8	3.6	.....	9ck	0	NE	.....	0.01	0.3	Cloudy	
Mobile, Alabama	30.09	764.3	30.13	765.3	78.5	25.8	82	N	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Montgomery, Alabama	29.91	759.7	30.14	765.5	76	24.4	86	Calm	0	0	.....	.....	10s	.....	Calm	0.46	11.7	Cloudy	
Morgantown, West Virginia	29.90	759.6	30.00	762.0	76	24.4	82	Calm	0	0	.....	.....	10s	.....	S	0.73	18.5	Cloudy	
Mt. Washington, N. H.	23.94	608.1	30.30	769.6	48	8.9	62	Calm	0	0	.....	8ks	Haze	Calm	Calm	0	0	Fair	
Nashville, Tennessee	29.58	751.3	30.10	764.5	77	25.0	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
New Haven, Connecticut	29.87	758.7	29.98	761.5	70	21.1	85	N	6	2.7	.....	2ck	2ks	.....	N	0.59	15.0	Fair	
New London, Connecticut	29.92	760.0	29.97	761.2	69	20.6	85	N	4	1.8	.....	.....	10s	.. ..	N	0.56	14.2	Cloudy	
New Orleans, Louisiana	30.04	763.0	30.10	764.5	82	27.8	75	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Newport, Rhode Island	29.92	760.0	29.96	761.0	68	20.0	84	NE	7	3.1	.....	.....	10ks	.....	NE	0.33	8.4	Threatening	
New York, New York	29.82	757.4	30.00	762.0	68	20.0	90	NE	11	4.9	.....	.....	10s	.....	NE	1.34	34.0	Cloudy	
Norfolk, Virginia	29.95	760.7	30.00	762.0	82	27.8	75	W	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.18	690.4	29.92	752.3	73	22.8	85	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.15	765.8	30.19	766.8	56	13.3	87	Calm	0	0	.....	5s	0	W	.....	0	0	Fair	
Omaha, Nebraska	28.94	735.1	29.95	760.7	83	28.3	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.76	755.9	30.08	764.0	70	21.1	85	N	4	1.8	.....	0	Haze	.....	Calm	0.06	1.5	Clear	
Pembina, Dakota	29.19	741.4	29.98	761.5	64	17.8	83	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	71	21.7	85	NE	12	5.4	.....	.....	10ks	.....	NE	1.28	32.5	Cloudy	
Phœnix Arizona	28.78	731.0	.....	.....	85	29.4	44	Calm	.....	.....	0	0	0	.....	.....	0.01	0.3	Clear	
Pike's Peak, Colorado	18.22	462.8	30.43	772.9	33	3.3	63	SE	7	3.1	.....	.....	10s	.. ..	SE	0.30	7.6	Cloudy	
Ploche, Nevada	24.24	615.7	30.00	762.0	61	16.1	12	NW	2	0.9	.....	2k	0	S	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.23	742.4	30.01	762.0	73	22.8	81	NE	5	2.2	.....	5k	0	N	.....	0.36	9.1	Fair	
Port Huron, Michigan	29.43	747.5	30.07	763.8	69	20.6	85	NE	5	2.2	.....	0	2ks	.....	Calm	0.02	0.5	Fair	
Portland, Maine	29.95	760.7	30.01	762.0	64	18.9	84	NE	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
Portland, Oregon	30.14	765.5	30.24	768.1	60	15.6	76	NW	8	3.6	.....	.....	8ks	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.96	634.0	30.32	770.1	64	17.8	78	Calm	.....	.....	0	0	10ks	.....	Calm	0.02	0.5	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.08	764.0	30.10	764.5	84	28.9	83	SE	6	2.7		0	0			0.15	3.8	Clear	
Red Bluff, California	29.59	751.6	29.93	760.2	71	21.7	45	NW	4	1.8		0	Haze		Calm	0	0	Clear	
Rochester, New York	29.47	748.5	30.06	763.5	71	21.7	80	NW	4	1.8		1k	0	NW		0.49	12.4	Clear	
Roseburg, Oregon	29.62	752.3	30.19	766.8	55	12.8	93	Calm	0	0		1ck	0	Calm		0	0	Clear	
Sacramento, California	29.84	757.9	29.92	760.0	68.5	20.3	63	SE	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.60	749.3	30.04	763.0	65	29.4	72	W	12	5.4		0	0			0	0	Clear	
St. Marks, Florida	30.11	764.8	30.13	765.3	79	26.1	91	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minnesota	29.18	741.2	29.97	761.2	72	22.2	95	SE	14	6.3			Fog		Calm	0	0	Foggy	
Salt Lake City, Utah	25.77	654.6	30.10	764.5	66	18.3	40	W	2	0.9		0	0			0	0	Clear	
San Antonio, Texas	29.42	747.3	29.98	761.5	76	24.4	95	Calm	0	0		10k	0	Calm		0	0	Cloudy	
San Diego, California	29.88	758.9	29.95	760.7	67	19.4	89	NW	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.41	747.0	30.06	763.5	74	23.3	86	E	8	3.6			10s			Inap.	Inap.	Threatening	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	67	19.4	95	NE	13	5.8			10ks		NE	2.14	54.4	Cloudy	
San Francisco, California	29.90	759.4	29.96	761.0	57	13.9	81	SW	4	1.8		0	0			0	0	Clear	
Santa Fé, New Mexico	23.54	597.9	30.08	764.0	60	15.6	71	N	2	0.9		0	0			1.01	25.7	Clear	
Savannah, Georgia	30.06	763.5	30.14	765.5	86	30.0	80	S	4	1.8		2k	Haze	S	Calm	0.52	20.8	Fair	
Shreveport, Louisiana	29.88	758.9	30.08	764.0	82	27.8	87	Calm	0	0		2cs	0	S		0	0	Fair	
Silver City, New Mexico	24.44	620.8	30.44	773.2	63	17.2	63	N	3	1.3		0	0			0.21	5.3	Clear	
Smithville, North Carolina	30.11	764.8	30.14	765.5	79	26.1	95	W	2	0.9		2ck	5ks	NW	W	0.26	6.6	Cloudy	
Springfield, Massachusetts	29.82	757.4	29.94	760.5	70	21.1	85	NE	6	2.7			10ks		NE	0.20	5.1	Cloudy	
Stockton, Texas	29.97	685 0	29.97	761.2	69	20.6	35	SE	12	5.4		0	0			0	0	Clear	
Thatcher's Island, Mass	29.95	760.7	30.00	762.0	65	18.3	89	SE	8	3.6			Fog			0.18	4.6	Foggy	
Toledo, Ohio	29.37	746.0	30.02	762.5	74	23.3	90	NE	10	4.5			10ks		NE	0.70	19.8	Cloudy	
Tucson, Arizona	27.51	698.7	30.06	763.5	78	25.6	72	Calm			0	5c	0	Calm		0.13	3.3	Fair	
Tybee Island, Georgia	30.08	764.0	30.11	764.8	83	28.3	83	Calm	0	0		2cs	2ks	Calm	SW	0.15	3.8	Fair	
Umatilla, Oregon	29.75	755.6			63	17.2	62	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Mississippi	29.88	758.9	30.13	765.3	77	25.0	86	W	2	0.9			10s		Calm	0	0	Cloudy	
Virginia City, Montana	24.51	622.5	29.99	761.7	58	14.4	53	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.61	752.1	29.98	761.5	63	17.2	77	NW	2	0.9		1c	0	Calm		0	0	Clear	
Washington, D. C.	29.90	759.4	30.01	762.2	77	25.0	86	N	8	3.6		5c;k	0	NW		0.87	22.1	Fair	
Wickenburg, Arizona					60	15.6	10	Calm			0	0	0			0	0	Clear	
Wilmington, N. Carolina	30.03	762.7	30.11	764.8	82	27.8	78	W	8	3.6		2c	0	NW		0	0	Fair	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	61	16.1	40	SW	2	0.9		0	0			0	0	Clear	
Wood's Holl, Mass	29.91	759.7	29.96	761.0	66	18.9	90	SE	4	1.8			10s		NE	0.21	5.3	Threatening	
Yankton, Dakota	28.77	730.7	29.98	761.5	79	26.1	78	SE	4	1.8		5ks	0	W		0	0	Fair	
Yuma, Arizona	29.71	754.6	29.85	758.2	81	27.2	70	SE	3	1.3		0	8ks		Calm	0.55	14.0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska																			
York Factory, B. A.	29.56	750.8	29.61	752.1	64.5	18.1	73	SW	16	7.2		4k	0	W		0	0	Threatening	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.02	762.5	30.04	763.0	82	27.8	83	E	1.2	0.5		0	0			0.43	10.9	Clear	Chas. Hasselbrink.
St. Thomas																			James Gall.
Kingston, Jamaica, W. I.	30.15	765.8	30.16	766.1	79	26.1	82	NE	2	0.9		8c	0	Calm		0	0		F. M. Everett.
Navassa, W. I.	29.87	758 7	29.95	760.7	84	28.9		NE	9.6	4.3						0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	81	27.2	91	E			2	4c	6k	E		1.620	38.61	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A																			Thomas Herran.
Medellin, Colombia, S. A.	25.24	641.1			67.0	19.4	82	Calm	0	0			10s;ks			0	0		

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,860 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,835 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 693.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m. Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.. Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,890 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

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

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

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.94	760.5	63	17.2	60	15.6	82	SW	13	5.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Navy Yard, Pensacola, Fla.	30.25	768.3	80	26.7	80	26.7	87	NE	3	1.3	.....	.....	5	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.00	762.0	71	21.7	67	19.4	84	NE	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	29.87*	758.7*	76	24.4	76.9	24.9	86	WSW	.....	.....	4	.....	3c	.....	W	Slight	Slight	.....	.....	Fair	
Alliance, Havre, France	30.10‡	764.5‡	.....	.....	66	18.9	89	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Ashuelot, Nagasaki, Japan	29. 83	757.7	80	26.7	78	25.6	91	S	.....	.....	6	.....	10	.....	S	.....	.....	.....	.....	Misty.....	
Alaska, N. 2° 28′, W. 25° 13′	30.25	768.3	82	27.8	80	26.7	78	SSE	.....	.....	4	.....	4	.....	SE	.....	.....	Long	SE	Pleasant.....	
Canonicus, New Orleans, La	30.12	765.0	55	12.8	78	25.6	86	E	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.	30.00‡	762.0‡	.....	.....	69	20.6	90	NE	4	1.8	.....	.....	10	.....	NE	1.76	44.7	.....	.....	Hazy	
Constellation, N. 39° 54′, W. 73° 56′	30.05‡	763.3‡	.....	.....	68	20.0	95	NNE	.....	.....	1	.....	10	.....	N;E	.....	.....	Smooth	.....	Cloudy.....	
Constitution, Havre, France	29.92‡	760.0‡	.....	.....	61	16.1	100	ESE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Despatch, Prince's Islands, Sea of Marmora	29.85‡	758.2‡	.....	.....	80	26.7	87	NE	.....	.....	3	.....	2	.....	NE	.....	.....	Smooth	.....	Clear.....	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.99‡	761.7‡	.....	.....	80	26.7	91	SE	.....	.....	3	.....	5	.....	SE	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	30.14	765.5	81	27.2	80	26.7	78	WSW	15.6	7.0	.....	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
Gettysburg Alexandria, Egypt	29.72‡	754.9‡	.....	.....	82	27.8	96	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Guard, Rio de Janeiro, Brazil	30.26	768.6	71	21.7	70	21.1	90	N	.....	.....	1	.....	2	.....	N	.....	.....	.....	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.21	767.3	.....	.....	68	20.0	90	N	3.6	1.6	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Marion, Villefranche, France	29.92	760.0	75	23.9	74	23.3	76	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Michigan, Erie, Pa.	29.58	751.3	73	22.8	73	22.8	76	NE	.....	.....	3	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Monocacy, Yokohama, Japan	29.86‡	758.4‡	.....	.....	78	25.6	86	S	.....	.....	2	.....	2	.....	S	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.38‡	771.6†	.....	.....	82	27.8	87	WSW	5	2.2	.....	.....	8	.....	WSW	0.02	0.5	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	61	16.1	88	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.69	754.1	85	29.4	79	26.1	82	NE	.....	.....	4	.....	8	.....	N;W	.....	.....	.....	.....	Cloudy.....	
Pensacola, Mare Island, California	30.05	763.3	65	18.3	60	15.6	88	SW	7	3.1	.....	.....	1	.....	SW	.....	.....	.....	.....	Cloudy.	
Plymouth. New York, N. Y.	29.99‡	761.7‡	.....	.....	70	21.1	95	Calm	.....	.....	0	.....	10	.....	NW	.....	.....	.....	.....	Overcast	
Ranger. Hong-Kong, China	29.80*	759.2*	.....	.....	86	30.0	83	SSE	.....	.....	1	.....	9	.....	S	.....	.....	.....	.....	D. clouds.....	
Rio Bravo. Brownsville, Texas	30.02	762.5	76	24.4	76	24.4	95	ESE	.....	.....	1	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	29.98‡	761.5‡	.....	.....	75	23.9	86	N	.....	.....	2	.....	8	.....	N	1.38	35.1	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.96	761.0	75	23.9	74	23.3	86	NE	7	3.1	.....	.....	10	.....	NE	1.37	34.8	.....	.....	Cloudy	
Supply, Havre, France	30.00	762.0	64′	17.8	63	17.2	94	SE	.....	.....	0-1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	30.00‡	762.0‡	.....	.....	67	19.4	100	ENE	.....	.....	3	.....	1	.....	N;E	.....	.....	.....	.....	Misty.....	
Trenton, Leghorn, Italy	29.90‡	759.4‡	.....	.....	73	22.8	81	NNE	.....	.....	2	.....	1	.....	N;E	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico	29.71	754 6	80	26.7	80	26.7	82	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Vandalia, N. 35° 34′ E. 31° 55′	29.75‡	755.6‡	.....	.....	89	31.7	69	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy..	
Wabash, Boston, Mass.	29.98‡	761.5‡	.....	.....	64	17.8	94	E	7	3.1	.....	.....	10	.....	Calm	0.03	0.8	.....	.....	Cloudy.....	
Wyoming, N. 52° 10′, W. 39° 18′	29.76	755.9	62	16.7	55	12.8	??	WSW	.....	.....	5	.....	10	.....	Calm	.....	.....	Mod'ate cross	.....	D.clouds.....	

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

UNITED STATES MARINE SERIES.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			Capt. Berry.
S. S. China, N. 22° 22′, E. 115° 34′		29.79*	756.7*	87	30.6	97	S			3		7		S	2 hours	Light	S	Cloudy	Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama, N. 30° 0′, W. 123° 50′		30.08*	764.0*				NW			2		Fog			Mod'ate	NW	Fair		Capt. Cavarly.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 8° 33′, W. 84° 40′		29.92†	760 0†	80	26.7	96	Calm			0		9		SW	0	Very small	SW	D. clouds	Capt. Whitebury.
S. S. Costa Rica																			Capt. Morse.
S. S. Dakota																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Grenada																			Capt. Ghest.
S. S. Wilmington																			
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, N. 41° 19′, W. 60° 8′		30.08*	764.0*	60	18.9	74	ESE			4				SE	0	None		D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 40° 38′, W. 71° 59′		29.97†	761.2†	58	14.4	??	NNE			2		Fog			4 hours			Foggy	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 35° 10′ E. 140° 32′		29.77*	756.1*	76	24 4	??	S			3		ks		S	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 31° 20′, E. 131° 24′		29.82	757.4	52	11.1	100	S			5		9		WNW		2	S	Misty	Capt. John Metcalf.

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

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 49° 39′, W. 50° 1′		30.15	765.8	68.5	20.3	70	SSW			1		5		SW	Blank		NW	Fair	Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

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

UNITED STATES MARINE SERIES.—CONTINUED.

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

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 49° 54′, W. 24° 12′		30.53*	775.4*	59	15.0	?†	NNW			4		8		NNW	0	Mod'ate	WNW	Cloudy	Captain Sargent.
S. S. Ohio, N. 39° 36′ W. 70° 21′ 30″		29.91	759.7	71	21.7	95	NNE			4		8†		NNE	Heavy	Heavy	NNE	Clear†	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.17†	766.3†	78	25.6	100	NW			3		1		W	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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

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

ALLAN LINE MARINE SERIES.

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

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

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

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, About N. 66°, W. 66°		30.17*	766.3*	41.5	5.3	73	Calm			0	0	0			0			Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

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

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

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

Albert J. Myer

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

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 14, 1878.

7:35 A. M. WASHINGTON mean time.

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

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

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

ALGERIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.03	762.7	70.0	21.1	80	NE			3		1			0	0	Very fair	Dr. Ollive.
Nemours			29.91	759.6	81.1	27.3	64	NNW			1		1			0	0	Very fair	Michel.
Algiers			29.83	757.6	80.6	27.0	71	WNW			4		7			0	0	Very cloudy	Tourillere.
La Calle			29.84	757.9	83.1	28.4	69	NNE			3		2			0	0	Fair	Foufrede.
Tunis			29.89	759.3	90.5	32.5		E			4		0			0	0	Clear	Jacques.
Sfax			29.97	761.2	89.6	32.0		SSE			1		0			0	0	Clear	Gau.
Saida			29.98	761.4	91.4	33.0	21	NNW			3		4			0	0	Cloudy	Herbin.
Tebessa			30.01	762.2				SW			6		3			0	0	Pretty fair	Watrin.
Geriville			30.02	762.5	103.6	39.8		S			4		4			0	0	Cloudy	Brugniaux.
Laghount			29.99	761.7	103.3	39.6	12	SW			1		0			0	0	Clear	Bertrand.
Biskra			29.92	760.0	104.0	40.0		ESE			1		1			0	0	Very fair	Chauvaux.

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

AUSTRIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.29	744.0	29.81	757.2	79.2	26.2	64	SW			3		3			1.181	30.0		Prof. Ivan Stozic.
Cracow, I. R. Observatory	29.04	737.6	29.78	756.5	66.9	19.4	64	W			1		10			0.488	12.4		Dr. Wierzbiski.
Eperies	28.89	733.8	29.73	755.1	73.4	23.0	59	Calm			0		10s			0	0		Julius Mikolik.
Gratz	28.63	727.1	29.83	757.7	67.3	19.6	89	ESE			3		6			0.100	2.55		Andreas Rospini.
Hermannstadt	28.37	720.6	29.71	754 7	77.0	25.0	35	WNW			3		6			0	0		Prof. Reissenberg
Kremtmünster	28.53	724.7	29.84	757.9	63.3	17.4	86	W			3		10			0.244	6.2		Prof. C. Wagner
Lemberg	28.75	730.3	29.71	754.5	65.8	18.8	74	NW			2		4			0.047	1.2		Dr. T. Stanecki.
Pola	29.71	754.7	29.82	757.4	82.0	27.8	63	SW			1		2k			0	0		I.R.Hydrographic Office
Szathmar	29.37	746.9	29.82	757.3	69.4	20.8	73	SW			3		9			0.213	5.4		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.74	755.3	29.84	757.9	81.7	27.6	63	Calm			0		2			1.394	35.4	Thunder-storm	P. Busin.
Vienna	29.21	741.9	29.90	759.5	68.2	20.1	63	W			1		6			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

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

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.58	725.8	30.08	763.9	56.5	13 6	76	WNW			2		10			0	0		Prof. M. Passau.
Brussels	28.86	758 4	30.06	763.5	60.1	15.6	67	WNW			4		10		NW	0	0		Royal Observatory
Furnes	30.10	764.4	30.12	765.0	61 2	16.2	69	NW			4		10			0	0		M. E. de Cae.
Maeseyck	29.91	759.7	30.04	762.9	62.1	16.7	76	WNW			4		9			0.008	0.2		M. Pierrot.

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

BRITISH SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.95	760.7	30.05	763.3	62.4	16.9		WNW	18	8.0			9			0	0	rca st	W. Boswell.
Ardrossan																			George Carrick.
Armagh, Observatory			30.23	767.8	59.3	15.2		NW	6	2.7									S. Call.
Bidston, (Liverpool Obs.)			30.14	765.5	59.4	15.2		W	14	6.3			8					Overcast	John Hartnup.
Birr Castle, (Parsonstown)			30.26	768.6	60.1	15.6		W			1		10					Overcast	J. L. E. Dreyer.
Bolton																			Thomas Mackereth.
Bradford, Yorkshire																0	0		J. McLandsborough.
Bridgetown, (Barbados)	30.02	762.5	30.05	763.3	84	28.9		SE			2		4?					Overcast ?..	Pvt. G. W. Roberts, A.
Cambridge, Observatory			30.10	764.5	67.0	19.4		N			1		10;hz					Overcast	H. Todd. [H.C.
Cardington			30.13	765.3	67.0	19.4		NW			1		9					Overcast	John McLaren.
Chatham, School M. E.	29.97	761.2	30.10	764.5	63.2	17.3		Calm			0		4					Blue sky	Lt. W. G. Morris, R. E.
Dartmoor	28.70	729.0	30.15	765.8	60.0	15.6		N			2		3					Fine	Alexander Watt.
Donaghadee	30.16	766.1	30.18	766.6	62	16.7		NW			5		7					D. clouds	J. Mac Gowan.
Dover	30.07	763.8	30.10	764.5	64	17.8		E			3		5					½ clouded	J. Costello.
Eccles, (near Manchester)			30.10	764.5	65.6	18.7		W	6.8	3.0			6					D. clouds	Thomas Mackereth.
Falmouth, Observatory	29.96	761 0	30.18	766.6	62.8	16.7		NNW			4		7					Overcast	The Staff.
Fort Napier, (Natal)	27.81	706.4	30.10	764.5	66.0	18.9		NE			2		10					Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.79	756.7	30.02	762.5	82	27.8		Calm			0		3					D. clouds	
Galway, Queen's College			30.22	767.6	61	16.1		NW			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.86	758.4	29.91	759.7	79.3	26.3		W			4		2					Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.92	760.0	30.12	765.0	63.3	17.4		WSW			4		6					D. clouds	P. G. Maclean.
Great Yarmouth	30.08	764.0	30.09	764.3	62	16.7		NW			4		4					D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.94	760.5	30.10	764.5	65.1	18.4		NNE			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.89	759.2	30.11	764.8	65	18.3		ENE			1		0					Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston			30.23	767.8	67	19.4		N			2		1c			0	0	Fine	M. P. Moyle.
Holyhead	30.14	765.5	30.19	766.8	58	14.4		NNW			5		10					Overcast	John Tilston.
Jersey	29.86	758.4	30.14	765.5	67.3	19.6		N			2		0					Blue sky	J. Fisher.
Kew, Observatory			30.10	764.5	65.5	18.6		NNE	8	3.6			6					D. clouds	The Staff.
Kingstown	30.19	766.8	30.22	767.6	60	15.6		NW			4		10					Overcast	George Mitchell.
Leicester, Museum			30.12	765.0	63.8	17.7		N			1		10					Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.79	756.7	29.86	758.4	82	27.8		NE			1		0						Sgt. Hewitt, A. H. C.
Nairn	29.97	761.2	30.06	763.5	61	16.1		WNW			1		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			30.02	762.5	84.5	29.2		SE			1		6					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.92	760.0	30.10	764.5	71.3	21.8		SW			2		9k		WNW	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.59	751.6	30.11	764.8	62.9	17.1		NW			4		10					Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.10	764.5	65	18.3		Calm			0		9					Overcast	H.E. Bellamy.
Plymouth	30.07	763.8	30.15	765.8	67.2	19.6		NNW			5		2					D. clouds	John Merrifield.
Roche's Point	30.20	767.1	30.24	768.1	63	17.2		NNE			3		5					Fine	W. Kennedy.
Saint Ann's Head																			John C. Walker.
Sandwick Manse, (Orkneys			30.00	762.0	56.5	13.6		W	20	8.9			10					Showery	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey			29.85	758.2	90.8	32.7		NE			1		1					Blue sky	Sergt. W. H. Lyne.
Sheffield	29.83	757.7	30.10	764.5	67.9	19.9		NNE			1		5			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.08	764.0	30.10	764.5	73.4	23.0	58	Calm			0		4			0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.71	754.6	30.12	765.0	66.9	19.4		W			2		6					D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	30.02	762.5	30.05	763.3	59	15.0		NNW			5		10					Drizzling	John Sutherland.
Stratfield Turgiss	29.80	756.9	30.11	764.8	66.6	19.2		N			2		5					D. clouds	Rev. C. H. Griffith, F.M.S
Thurso			30.03	762.7	58	14.4		WNW			3		9					Overcast	John Trotter.
Truro, Royal Institution			30.11	764.8	73	22.8		N			6		6					D. clouds	W. Newcombe.
Valencia, Observatory			30.28	769.1	65.7	18.7		NNW	14	6.3			5					D clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)																			Henry Mercer.
Cape Good Hope, Obs'y																			The Staff, for E. J. Stone.
Hobart Town, (Tasmania)			29.82	757.4	56.0	13.3	86	SE			1		10k			0.6	15.	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park																			Andrew Gibb.
Mauritius, Observatory	30.10	764.5	30.29	769.4	71.4	21.9	59	ESE	21.5	9.6		0	6			0.06	1.5	Squally	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	43.3	6.3	96	SW	6	2.7			10			0.04	1.0	Dense fog	R. L. J. Ellery.
Monach L'ghouse, Hebrides																			J. Youngclaire.
North Unst, (Shetland Is.)																			Robert Burnet.

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

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria, N. 51° 50′, W. 8° 0′	3	Smooth	Overcast	Capt. W. Watson.
S. S. Batavia				Capt. J. E. Mouland.
Ship Camperdown				Capt. A. T. Miller.
Brig Catherine, N. 48° 10′ W. 65° 50′	3		D. clouds	Capt. Alex. Wilson.
Barque Celeste				
Barque Commewyne				Capt. A. Buchan.
S. S. Don				A. S. Thomson.
S. S. Gordon Castle				Capt. W. Waring.
S. S. Hibernia				Capt. W. R. Cato.
Barque Margaret Smith				Capt. D. W. A. Quaile
Barque Maroon				Capt. A. T. Brown.
Ship Mikado				Capt. C. C. Prehn.
S. S. Naid				Capt. J. Smith.
S. S. Peruvian, N. 46° 20′ W. 66° 40′	3		Raining	Capt. W. H. Smith, [R. R. N.
Royal Alice				Capt. E. M. Hughes.
S. S. Seine				Capt. H. Manning.
Barque Sorata				
Schooner Traveller, N. 61° 12′, W. 48° 10′	1		Foggy	Capt. Alex. Simpson.
Barque Virginia, N. 47° 45′, W. 34° 20′	5	S	Overcast	Capt. W. Spratly.
S. S. Yorkshire				Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

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

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

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

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

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

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

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

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.21	665.7	.....	.....	68.4	20 2	89	NE	.....	.....	3	4kts	.....	.....	.....	0.1	3.	.....	Federico Maison.

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

DANISH SERIES.

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

Copenhagen	29.6	751.8	29.65	753.0	62.6	17.0	73	NW	.....	.....	2	.....	7	.....	.....	.....	.....	.....
Fanöe	29.73	755.1	29.75	755.6	64.9	18.3	70	NW	.....	.....	6	.....	5	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.67	753.5	29.71	754.6	43.2	6.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	29.83	757.6	29.87	758.7	55.8	13.2	75	W	.....	.....	6	.....	5	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.87	758.7	29.91	759.6	57.0	13.9	72	WNW	.....	.....	4	.....	3	.....	.....	.....	.....	.....
Vestervig	29.58	751.2	29.74	755.5	63.0	17.2	78	N	.....	.....	4	.....	3	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

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

Alençon, Normal School	29.59	751.6	30.14	765.6	66.2	19	57	NE	.....	.....	4	.....	5	.....	NE	0.020	0.5	Cloudy	Collignon, Director.
Amiens, Normal School	29.95	760.8	30.06	763.5	72.0	22.2	67	NW	.....	.....	2	.....	2	.....	NW	0.228	5.8	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.82	757.4	29.90	759.4	86 0	30	43	N	.....	.....	1	.....	0	.....	.....	0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.63	750.1	30.09	764.3	63.0	17.2	57	E	.....	.....	2	.....	5n	.....	E	0.031	0.8	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.83	757.7	30.11	764.8	70.3	21.3	55	NE	.....	.....	1	.....	8	.....	NE	0.295	7.50	Very cloudy	Normal School.
Besançon	29.11	739.3	29.97	761.2	70.2	21.2	67	NW	.....	.....	4	.....	.....	.....	NE	0	0	.....	Normal School.
Bourg-en-Bresse	29.15	740.3	30.08	764.0	75.4	24.1	62	N	.....	.....	2	.....	5cn	.....	N	0	0	Cloudy	Normal School.
Bourges, Normal School	29.48	748.8	30.08	764.0	69.4	20.8	61	NE	.....	.....	4	.....	5ck	.....	NE	0	0	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.84	757.9	30.08	764.1	70.5	21.4	65	NE	.....	.....	4	.....	1	.....	NE	0.069	1.75	.....	The Staff.
Carcassonne, Normal Schoo	29.52	749.9	29.92	759.9	81.0	27.2	50	W	.....	.....	2	.....	2	.....	W	0.217	5.5	Slightly cl'dy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.46	748.2	30.01	762.3	68.4	20.2	92	E	.....	.....	2	.....	8	.....	W	0.083	2.1	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'	29.77	756.1	30.08	764.0	68.8	17.4	63	NW	.....	.....	2	.....	8k	.....	NW	0.126	3.2	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.65	727.6	29.95	760.8	72.1	22.3	65	N	.....	.....	1	.....	10	.....	NE	0	0	Covered	Alluard, Director.
Commercy, Normal School	29.21	741.9	30.08	763.9	62.2	16.8	73	NW	.....	.....	2	.....	10	.....	SE	0.402	10.2	Covered	Dr. Coulet, Director.
Commune de Gréasque*	28.84	732.4	29.98	761.4	83.6	29.7	38	NW	.....	.....	2	.....	2	.....	NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. Schoo	29.80	757.0	30.01	762.3	75.2	24.0	40	ENE	.....	.....	0	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.78	756.5	30.09	764.2	69.4	20.8	98	NE	.....	.....	4	.....	2	.....	E	0.020	0.50	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.23	742.5	30.14	765.5	71.8	22.1	55	NE	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.98	761.5	30.08	764.0	73.0	22.8	47	NE	.....	.....	3	.....	2	.....	NE	0	0	¼ Covered	T. Carré, Director.
Mâcon, Normal School	29.39	746.5	30.09	763.4	72.3	22.4	72	N	.....	.....	2	.....	5	.....	N	0	0	Cloudy	M. Galzin, Director.
Mirecourt	28.98	736.0	30.00	762.1	64.4	18	78	W	.....	.....	4	.....	2	.....	E	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.69	754.0	29.87	758.8	88.2	31.2	31	NW	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.69	754.0	30.06	763.5	74.3	23.5	53	N	.....	.....	2	.....	2	.....	N	0.020	0.5	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.85	758.3	30.09	764.3	64.9	18.3	59	NE	.....	.....	1	.....	10	.....	NE	0.290	7.38	Misty	National Observatory.
Privas	28.94	735.1	29.97	761.1	76.1	24.5	50	N	.....	.....	2	.....	2	.....	N	0	0	Slightly cov.	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.8	29.98	761.6	78.3	25.7	37	E	.....	.....	5	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.00	762.1	30.09	764.2	71.6	22.0	42	W	.....	.....	1	.....	5	.....	W	0.248	6.3	Cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	28.89	733.8	29.94	760.5	71.6	22	74	WSW	.....	.....	3	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.25	743.0	29.94	760.4	73.0	22.8	76	NNE	.....	.....	4	.....	2	.....	NW	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.97	761.3	84.2	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.48	63.	.....	L'Abbé Marchési.
Lyons	.....	.....	30.12	765.1	70.2	26.2	53	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.91	759.7	76.1	24.5	71	W	.....	.....	2	.....	2	.....	.....	0	0	.....	The Staff.
Mont-Louis	24.94	633.4	30.25	768.4	68.9	20.5	55	WSW	5.6	2.50	.....	.....	0	.....	.....	0.224	5.7	.....	M. Cave.
Nice	.....	.....	29.93	760.2	75.2	24.0	74	W	.....	.....	1	.....	2	.....	.....	0	0	¼ Covered	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.81	757.2	30.09	764.2	64.3	18.5	68	NE	.....	.....	2	.....	10	.....	.....	0.134	3.4	.....	Marié Davy, Director
Perpignan	.....	.....	29.93	760.2	75.0	23.9	79	E	7.4	3.33	.....	.....	5	.....	W	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.61	574.4	.....	.....	60.4	15.8	.....	SSW	.....	.....	1	.....	7	.....	.....	0.811	20.6	Fair	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.93	760.2	30.10	764.4	65.1	18.4	67	N	.....	.....	1	.....	10	.....	N	0	0	Covered	E. Renou.
Toulouse, Observatory	29.21	742.0	29.94	760.4	76.8	24.9	57	E	.....	.....	3	.....	7	.....	.....	0	0	.....	The Staff.
Tours	29.55	758.2	30.05	763.2	73.8	23.2	47	E	.....	.....	5	.....	0	.....	.....	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.11	764.7	67.6	19.8	47	E	.....	.....	2	.....	8	.....	.....	0	0	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.80	757.0	29.83	757.6	77.0	25.0	98	ESE	2.2	1.0	.....	.....	10kn	.....	.....	0.307	7.8	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,033.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,338 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

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

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.05	737.9	29.89	759.2	69.1	20.6	57	W			5		6	W		0	0		Prof. Dr. Hoh.
Berlin	29.62	752.4	29.79	756.7	65.3	18.5	69	W			1		9			0.398	10.1		Prof. Arndt.
Breslau	29.32	744.6	29.84	758.0	60.6	15.9	84	NW			3		7			0.268	6.8	Raining	Royal University Obs'y
Carlsruhe	29.56	750.9	29.98	761.5	66.2	19.0	73	SW			2	10				0	0		Albert Senz.
Cassel	29.30	744.2	29.91	759.6	63.0	17.2	75	NW			3	7		W		0	0		Dr. H. Möhl.
Crefeld	29.82	757.3	29.98	761.4	58.6	14.8	89	N			3	9				0	0		Director Lose.
Emden	29.87	758.8	29.91	759.8	57.9	14.4	72	NNW			5	10				0.059	1.5		Prof. Prestel.
Frankfort on the Main	29.65	753.0	30.00	762.0	69.1	20.6		WSW			3	8				0	0		Physical Society.
Friedrichshafen	28.58	725.9	29.97	761.2	70.0	21.1	74	SW			3	3		WNW		0	0		M. Wilhelm.
Hamburg	29.73	755.2	29.80	756.9	64.8	18.2	75	NNW			5		8ckjks			0.059	1.5		Captain F. Hegemann.
Kiel	29.72	754.8	29.73	755.2	64.4	18.0	67	NW			2		6			0.024	0.61		Prof. G. Karsten.
Königsberg, (Prussia)	29.61	752.1	29.69	754.1	63.5	17.5	73	SW			3		6			1.579	40.1		Prof. E Luther.
Köslin			29.73	755.2	60.4	15.8		SW			6		4			0.047	1.2		H. Müller.
Leipsic, Observatory	29.47	748.6	29.89	759.2	58.2	14.6	85	W			2	10		W		0.173	4.4	Rainy	Prof. Bruhns.
Memel, Naval School	29.66	753.4	29.71	754.6	65.1	18.4	68	W			1		11ks						Reinbrecht and Skalweit.
Neufahrwasser	29.68	753.9	29.70	754.3	66.2	19.0	72	WSW			2	9		SW		0.106	2.7		A. Lothes.
Posen	29.54	750.2	29.82	757.4	64.4	18.0	74	W			2	8				0.354	9.0		Dr. Magener.
Strassburg (in Alsace)	29.49	749.0	30.03	762.7	64.6	18.1	53	NW			2	4		W		0.797	20.26		Astronomical Observatory.
Stuttgart	29.04	737.5	29.95	760.8	65.1	18.4	67	W			1	9		W		0	0		Prof. Schoder.
Treves, (Trier)	29.40	746.8	29.92	760.0	63.5	17.5	69	W			3	10				0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.48	723.3	29.93	760.3	62.4	16.9	71	NW	2	1			6ck		W	0.232	5.9		Dr. Von Bebber.
Wustrow, Naval School	29.71	754.7	29.75	755.7	64.6	18.1	74	W			4	7				0.102	2.6		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

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

Athens	29.41	747.1	29.78	756.4	91.0	32.8		SW			2.0							Clear	Dr. J. F. J. Schmidt.

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

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.44	747.8	29.49	749.0	87.6	30.9	72	SW	37?	16.6?			9		WSW	0	0	D. clouds	
Deesa	29.10	739.2	29.56	750.8	93.7	34.3	52	S					1	SW		0	0	Misty	
Bombay	29.64	752.8	29.68	753.8	85.7	29.8	78	W	13	5.8			4	W	WSW	0.55	14.0	D. clouds	
Poona	27.67	702.8	29.65	753.2	80.0	26.7	73	NW					8	SE	NW	0.01	0.3	Threatening	
Lahore	28.79	731.2	29.53	750.1	73.8	23.2	58	N	4.4	2.0			10		N	1.44	36.6	Raining	
Belgaum	27.19	690.7	29.72	754.8	75.8	24.3	91	W	10	4.5			7		W	0	0	D. clouds	
Bangalore																			
Roorkee	28.57	725.7	29.44	747.8	88.8	31.6	54	NW	2.6	1.2			0			0.30	7.6		
Agra	28.94	735.0	29.49	749.0	86.7	30.4	76	W	4	1.8					W	0	0		
Trichinopoly																			
Nagpur	28.60	726.4	29.64	752.8	77.6	25.3	95	NW	3.4	1.5			9		E	0.42	10.7	Drizzling	
Madras																			
Lucknow	29.09	738.9	29.65	753.0	95.1	35.1	65	SW	2.4	1.1			8		W	1.25	31.8	D clouds	
Allahabad	29.19	741.5	29.49	749.1	88.5	31.4	69	SW	2.1	0.9			9	W		0.07	1.8	Thunder	
Patna	29.34	745.2	29.52	749.8	81.5	27.5	87	E	0.9	0.4			10	E	E	0.23	5.8	D. clouds	
Hazaribagh	27.54	699.5	29.51	749.4	84.6	29.2	81	WSW	8.2	3.7			10	W	S	0	0	Thunder, lightn'g	
Cuttack	29.52	749.8	29.60	751.9	84.5	29.2	64	SSW	5.2	2.3			3			0	0	D. clouds	
Calcutta (Alipore)	29.54	750.4	29.57	751.0	83.7	28.7	91	S	5	2.2			10	SW		0	0	Overcast	
Goalpara	29.18	741.0	29.56	750.8	79.8	26.6	89	Calm	3.6	1.6			7			0.43	10.9	D. clouds	
Chittagong	29.56	750.8	29.65	753.2	78.9	26.1	95	SSE	5.5	2.5			10			0.75	19.0	Overcast	
Sibsagar	29.23	742.4	29.56	750.7	85.7	29.8	77	WNW	3.4	1.5			10	W	W	0.06	1.5	D. clouds	
Rangoon																			
Jubbulpore	28.26	717.8	29.61	752.1	83	28.3	70	SW	4.5	2.0			8			0.21	5.3	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.5	29.86	758.5	76.6	24.8	67	SW	3.1	1.4	.....	.....	8	.....	.....	0.047	1.2	.....	Prof. Giovanni Clodig.
Padua	29.71	754.7	29.82	757.4	81.3	27.4	60	SW	5.6	2.5	.....	.....	5	WNW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.64	752.9	29.81	757.1	82.8	28.2	51	SW	7.4	3.3	.....	.....	4	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.56	725.4	29.82	757.5	81.7	27.6	52	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.32	744.7	29.81	757.2	84.6	29.2	.....	W	.....	.....	1	.....	3	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.96	735.5	29.82	757.4	81.3	27.4	53	S	3.1	1.4	.....	.....	3	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.99	711.0	29.81	757.2	78.4	25.8	58	SSE	.....	.....	4	.....	2	WSW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.72	754.9	29.94	760.4	75.0	23.9	66	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.70	755.9	29.93	760.1	73.9	23.3	66	SW	6.9	3.1	.....	.....	8	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.63	752.6	29.83	757.6	82.0	27.8	45	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.66	753.3	29.96	759.5	80.6	27.0	52	SW	.....	.....	4	.....	8	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.83	757.7	29.91	759.7	75.0	23.9	66	NNW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.70	756.7	29.84	757.9	77.7	25.4	63	N	.....	.....	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.37	720.6	29.86	758.4	70.9	20.6	40	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.77	756.1	29.87	758.8	79.9	26.6	45	SSW	.....	.....	4	.....	2	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.71	754.6	29.88	758.9	82.4	28.0	52	W	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.73	755.2	29.93	760.1	81.3	27.4	51	SSW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	82.8	28.2	50	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.68	753.8	29.86	758.5	80.4	26 9	66	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.62	787.2	29.86	758.4	86.7	30.4	60	SW	.....	.....	8	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.70	754 3	29.94	760.5	77.9	25.5	68	ENE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Caccatore.
Syracuse	29.74	755.4	29.82	757.3	79.2	26.2	73	E	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746 7	29.95	760.8	79.7	26.5	60	SSW	4.9	2.2	.....	.....	2	S	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 879.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.80	756.9	30.00	762.0	73.8	23.2	95	SE	0.2	0.1	.....	.....	10n	.....	.....	.....	.....	Rainy	The Observatory.
Tokei (Yeddo)	29.73	755.1	29.80	756.9	77.3	25.2	83	SW	7.3	3.3	.....	8ck	.....	S	.....	0	0	Fair	
Tokei (Yeddo) University	29.68	753.9	29.77	756.2	77.5	25.3	91	SW	6	2.7	.....	6cs	.....	W	.....	0	0	Fair	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	68.3	20.2	78	S	0.9	0.4	.....	0	8k	.....	ESE	0.02	0.4	Cloudy	L. Castillo, A. E.
Guadalajara	25.14	638.5	30.11	764.7	59.4	15.2	89	N	1.8	0.8	.....	0	8	.....	E	0.59	15.0	Cloudy	Prof. L. Perez.
Guanajuato	23.77	603.8	29.95	761.8	62.2	16.8	80	Calm	0	0	.....	0	4	.....	SW	0	0	½ cloudy	Prof. V. Fernandez
Leon	.....	.....	.....	.....	62.1	16.7	90	WNW	0.9	0.4	.....	4c	1ks	W	NW	0	0	½ cloudy	Prof. M. Leal.
Mexico	23.17	588.5	30.17	766.2	60.4	15.8	74	NW	3.8	1.7	.....	0	7k	.....	.....	0.16	4.1	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	59.7	15.4	66	N	5.1	2.3	.....	2c	0	.....	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. B. Gonzales.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazques.
Tlacotalpam	29.98	761.5	29.99	761.8	76.1	24.5	92	N	0.9	0.4	.....	0	6k	.....	NE	0.24	6.0	Rainy	Prof. F. R. Bayly.
San Luis Potosi	24.34	618.0	30.32	770.1	61.0	16.1	74	E	0.9	0.4	.....	0	7k	.....	W	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	30.04	763.0	30.07	763.7	77.0	25.0	88	Calm	0	0	.....	0	10n	.....	.....	1.42	36.0	Rainy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	81	NNE	1.8	0.8	.....	0	7	.....	E	.....	.....	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.31	591.9	30.03	762.9	63.6	17.0	69	N	2.2	1.0	.....	0	2	.....	E	Inap.	Inap.	Clear	Prof. P. Spina. [M. M. D. D
Morelia	24.12	612.5	.....	.....	64.4	18.0	58	NE	0.9	0.4	.....	0	8k	.....	E	0.11	2.7	Cloudy	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.02	762.5	81.1	27.3	83	.....	.....	.....	.....	.....	.....	.....	.....	0.07	1.7	Rainy	R. Banda, C. E
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,831 m., or 6,103.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,283.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,803 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 593.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.08	764.1	30.08	764.1	62.6	17.0	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.85	758.1	29.80	755.9	59.5	15 3	.....	NW	.....	.....	4	.....	.....	.....	.....	0.091	2.3	.....	
Helder	29.98	761.4	29.98	761.4	57.9	14.4	.....	NW	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Hellevoetsluis	30.03	762.7	30.03	762.7	61.8	16.0	70	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.96	761.0	30.01	762.2	62.6	17.0	67	WNW	.....	.....	4	.....	8	.....	.....	0.008	0.2	Very cloudy	H. v d Brink.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.76	755.8	29.81	757.2	60.8	16.0	79	WNW	12.1	5.4			0			0	0		
Brönö	29.70	754.3	29.74	755.3	66.2	19.0	63	NNE	9	4			0			0	0		
Christiania	29.56	750.7	29.69	754.2	74.3	23.5	48	SSW	4	2			5			0.091	2.3		
Tromsö	29.70	754.3	29.74	755.4	56.8	13.8	73	NE	4	2			0			0	0		

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.18	766.6	30.37	771.4	70.9	21.6	74	NE	11.2	5.0			5			0	0		Dr. J. A. Sampaio.
Campo Major	28.91	734.3	29.91	759.6	75.2	24.0	45	WNW	11.2	5.0			7	N		0	0		Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.02	762.6	30.11	764.8	74.5	23.6	69	SW	1.3	0.6			8			0.031	0.8		Capt. D. A. de Cunha.
Lisbon, Observatory	29.59	751.6	29.95	760.7	66.2	19.0	85	SW	15.0	6.7			0			0.028	0.7		The Staff.
Ponta Delgada, (Azores)	30.28	769.1	30.35	770.9	71.6	22.0	64	NE	14.3	6.4			4			0	0		

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.																Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias																			R. A. T. Pinha, Com'd.
D. Fernando																			A. M. de Sande, Com'd.
India																			A. D. Pedroso, Com'd.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda			30.07	763.8	71.2	21.8		WNW			1		8			1		D. clouds	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58', E. 32° 37'			30.19	766.7	70.7	21.5		SSE			5		4		S	3	SSE	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands			30.03	762.7	69.6	32.0		S			2		5		SW	2	SW	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'			29.98	761.6	72.3	22.4		WNW			1		8			1		D. clouds	F. Texeira da Silva, Com'd't.
Tejo																			E. Ivos do Rio.

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.33	744.9	29.74	755.3	65.1	18.4	67	SSW	9	4			9ks						Astronomical Obs.
Wilna	29.26	743.2	29.66	753 4	66.4	19.1	53	NW	7	3			6					Heavy clouds	Astronomical Obs.
Dorpat	29.33	744.9	29.56	750.8	67.1	19.5	70	WNW	9	4			10n						Prof. Dr. Weihrauch.
St. Petersburg	29.41	747.1	29.43	747.5	67.5	19.7	73	N	7	3			7n;ks						Central Physical Obs.
Kuopio																			Ch. Forsten.
Kieff	29.01	736.8	29.61	752.2	68.7	20.4	55	NW	7	3			6k;ks						Physical Cabinet.
Nikolaiev	29.71	754.6	29.78	756.4	78.8	26.0	67	SW	13	6			4ks						Kurdakof.
Kertch	29.82	757.3	29.84	757.8	77.2	25.1	56	WNW	9	4			4						Lagorio.
Moscow	28.80	731.5	29.32	744.7	68.5	20.3	68	N	9	4			7ks						Meteorological Obs.
Lugan	29.35	745.5	29.55	750.5	72.3	22.4	52	WSW	4	2			10			Blank	Blank		Meteorological Obs.
Archangel	29.53	750.1	29.55	750.6	68.9	20.5	45	NNE	13	6			0						Ogorodnikof.
Tiflis	28.31	719.0	29.63	752.5	87.8	31.0	32	NW	22	10			2ks						Physical Observatory
Astrakhan	29.71	754.6	29.63	752.5	84.7	29.3	25	WNW	13	6			6k						Sebastianof.
Krotkowo*																			Cand. Fatjanow.
Kasan	28.96	735.5	29.21	741.9	68.5	20.3	70	NNE	2	1			10						Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.43	722.2	29.32	744.6	77.2	25.1	47	SSE	9	4			6n;ks						Meteorological Obs.
Nukuss	29.46	748.2	29.68	753.8	89.4	31.9	45	NNW	11	5			4ck						
Kasaly																			Bobrof.
Tashkend	28.17	715.4	29.75	755.6	87.1	30.6	38	Calm	0	0			0						Michelson.
Barnaul	29.12	739.6	29.61	752.0	73.6	23.1	62	SE	0	0			10						Meteorological Obs.
Yeniseisk	29.30	744.1	29.57	751.0	82.9	28.3	59	SE	7	3			0						Marks.
Irkutsk																			Usolzef.
Peking, (China)	29.56	750.7	29.70	754.3	75.2	24.0	72	Calm	0	0			6ks						Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.5 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.78	756.4	29.88	759.0	77.7	25.4	67	E	2.9	1.32		2ck				0	0		Antonio Rave, Director.
Bilbao, Met. Obs'y	29.83	757.6	29.88	759.0	82.8	28.2	62	NW	3.0	1.34		3	5	NW		0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.96	684.7			82.4	28.0	37	SE	8.0	3.69			7			0	0	Clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.66	702.6	29.76	755.9	83.1	28.4	35	SW	8.2	3.67		0	5			0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.65	753 1	29.79	756.7	87.1	30.6	56	NE	5.2	2.33		1	8	NE		0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.01	736.9	29.90	759.4	61.3	16.3	97	NE	15.6	8.33			10			0.134	3.4	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	83.6	28.7	78	Calm	0	0		0	3lc;kn			0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands,																			Federico Faura, S. J.
Sta. Fernando, Naval Obs'y	29.88	758.9	29.97	761.3	72.9	22.7	61	W	12.0	5.4		4	4	W	W	0	0		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.6	30.04	762.9	81.0	27.2	91	NE	0	0		1s	2kn	NE	NE	0.929	23.60	Clear	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.65	753.2	29.69	754.2	76.6	24.8	.....	S	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.65	753 1	29.70	754.4	68.4	20 2	74	Calm	.....	.....	0	.....	9	.....	.....	0.087	2.2	.....	
Hernosand	29.61	752.0	29.66	753 3	66.6	19.2	93	ENE	.....	.....	6	.....	5	.....	.....	0.055	1.4	.....	
Stockholm	29.50	749 2	29.67	753.7	68.0	20.0	91	WNW	.....	.....	4	.....	5	.....	.....	0.492	12.5	.....	
Wisby	29.68	751.4	29.64	752.9	61.5	16.4	81	NNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.59	751.6	29.67	753.5	68.9	20.5	54	NW	4.3	1.9	.....	.....	5	.....	N	0.006	0.16	.....	Dr. Hildebrandsson.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725 3	29.03	760.2	72.5	22.5	65	N	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.38	720.8	29.06	760.9	72.0	22.2	63	W	.....	.....	2	.....	3	.....	.....	0	0	Bright	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.3 mm.; Thermometer, —0.1 cent.; Relative Humidity, +12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.84	758.0	83.5	28.6	59	NE	7	3.0	.....	.....	3	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762.2	85.1	29.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obsty	29.53	750.0	29.64	752.9	91.9	33.3	63	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.54	760.3	29.83	757.7	72	22.2	.....	SW	5	2.2	.....	.....	8s	.....	SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29.85	758.2	29.91	759.7	56	13.3	84	NE	2	0.9	.....	5k	5ks	W	W	Inap.	Inap.	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.87	758.7	29.91	759.7	61	16.1	85	E	4	1.8	.....	.....	10s	.....	Calm	0.020	0.51	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.77	756.1	72.0	22.2	69	W	.....	.....	4	.....	9s	.....	.....	...	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.75	755.6	29.91	759.7	51	10.6	93	E	.....	.....	1	.....	.....	.....	.....	0	0	Cloudy	H. A. Johnson.
Esquimault, B. C	30.14	765.5	30.19	766.8	51.3	10.7	100	W	.....	.....	.....	0	0	.....	.....	0.01	0.3	Clear	W. H. Bevis.
*Father Point, Quebec	29.70	754.4	29.72	754.9	53	11.7	90	SE	32	14.3	.....	.....	10n	.....	SW	0.28	7.1	Light rain	J. McWilliams.
Fredericton, N. B	29.80	756.9	29.87	758.7	61.0	16.1	77	SE	5	2.2	.....	.....	10s	.....	.....	0.46	11.7	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.07	738.4	29.85	758.2	71	21.7	92	SW	5	2.2	.....	5k	5ks	Calm	Calm	0	0	Cloudy	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.90	734.0	29.04	760.5	74	23.3	80	S	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.76	755.9	29.89	759.2	65	18.3	80	SE	3	1.3	.....	2c	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.61	752.1	29.97	761.2	73.9	23.3	70	W	.....	.....	4	2c	0	SE	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.93	760.2	29.96	761.0	56	13.3	81	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.55	750.6	29.87	758.7	73	22.8	83	SW	8	3.6	.....	5k	2s	W	Calm	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.87	758.7	29.91	759.7	62.0	16.7	.....	S	4	1.8	.....	.....	10n	.....	.....	0.11	2.8	Overcast	C. H. Rigby.
*Montreal, Quebec	29.55	750.6	29.74	755.4	71	21.7	64	W	14	6.3	.....	.....	10ks	.....	N	0	0	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.23	742.4	29.88	758.9	74	23.3	90	W	11	4.9	.....	2ck	0	NW	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.16	740.7	29.87	758.7	76.7	24.8	64	Calm	.....	.....	0	0	0	.....	.....	0	0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.31	744.5	29.97	761.2	72	22.2	80	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.37	746.0	29.98	761.5	73	22.8	85	W	5	2.2	.....	2ck	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.41	747.0	29.73	755.1	57	13.9	94	E	.....	.....	1	.....	10n	.....	.....	.....	.....	Light rain	Capt. Ashe, R. N
*Rockliffe, Ontario	29.38	746.2	29.82	757.4	71	21.7	73	W	8	3.6	.....	Haze	Haze	.....	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	55	12.8	93	SE	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.75	755.6	29.91	759.7	55	12.8	93	S	10	4.5	.....	.....	Fog	.....	.....	0.14	3.6	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.24	742.7	29.92	760.0	74	23.3	86	W	5	2.2	.....	2cs	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.71	729.2	29.03	760.2	70.2	21.2	87	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.90	759.4	29.93	760.2	60	15.6	89	W	2	0.9	.....	.....	10n	.....	.....	0.01	0.3	Cloudy	T. C. Hill.
*Toronto, Ontario	29.67	751.1	29.93	760.2	72	22.2	80	SW	1	0.4	.....	5ck	0	NW	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	71.0?	21.7?	62	W	.....	.....	.....	2c	2s	.....	.....	Inap.	Inap.	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0–10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From —	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER	OBSERVER.
Albany, New York	29.71	754.6	29.93	760.2	69	20.6	80	S	5	2.2	.....	0	Haze	.....	.....	0	0	Clear	
Alpena, Michigan	29.27	743.4	29.88	758.9	73	22.8	81	NW	7	3.1	.....	Haze	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.97	761.2	29.99	761.7	72	22.2	90	N	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Augusta, Georgia	29.80	756.9	29.97	761.2	90	32.2	60	NW	6	2.7	.....	5c	2ks;hz	S	Calm	0	0	Fair	
Baltimore, Maryland	29.95	760.7	30.00	762.0	73	22.8	90	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Barnegat, New Jersey	29.97	761.2	29.99	761.7	72	22.2	80	NW	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear	
Bismarck, Dakota	28.05	712.5	29.91	759.7	78	25.6	54	E	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
BoiseCity, Idaho	27.12	688.8	30.00	762.0	62	16.7	50	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.78	756.4	29.93	760.2	67.5	19.7	84	SW	10	4.5	.....	.....	7s	.....	SW	Inap.	Inap.	Cloudy	
Brackettville, Texas	28.91	734.3	29.90	759.4	78	25.6	73	E	2	0.9	.....	5cs	0	E	.....	0	0	Fair	
Breckenridge, Minnesota	28.89	733.8	29.82	757.4	76	24.4	91	S	11	4.9	.....	2k	0	S	.....	0	0	Fair	
Brownsville, Texas	30.00	762.0	30.06	763.5	78	25.6	86	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.27	743.4	29.93	760.2	71	21.7	80	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.59	751.6	29.84	757.9	73	22.8	54	S	12	5.4	.....	1cs	0	W	.....	0	0	Clear	
Cairo, Illinois	29.63	752.6	30.00	762.0	86	30.0	76	Calm	0	0	.....	1c	0	Calm	.....	0.02	0.5	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	64	17.8	78	NE	.....	.....	1	2c	2ks	E	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	27.27	641.8	30.07	763.8	70	21.1	53	Calm	.....	.....	0	2c	0	Calm	.....	0.03	0.8	Fair	
Camp Verde, Arizona	26.80	680.7	30.29	769.4	78	25.6	69	SE	.....	.....	1	2c	0	Calm	.....	0.22	5.6	Fair	
Campo, California	27.42	696.5	30.00	762.0	62	16.7	88	Calm	.....	.....	0	0	0	.....	.....	2.32	58.9	Clear	
Cape Hatteras, N. Carolina	29.96	761.0	29.97	761.2	76	24.4	73	NE	17	7.6	.....	0	2s	.....	NE	2.10	53.3	Fair	
Cape Henry, Virginia	29.97	761.2	29.99	761.7	74	23.3	81	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.95	760.7	29.96	761.0	77	25.0	82	NE	20	8.9	.....	8k	0	E	.....	1.26	32.0	Cloudy	
Cape May, New Jersey	29.99	761.7	30.02	762.5	71	21.7	85	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.93	760.2	29.99	761.7	82	27.8	83	W	7	3.1	.....	2ck	8s	NW	W	0.20	5.1	Cloudy	
Cheyenne, Wyoming	24.18	614.2	30.12	765.0	62	16.7	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.34	745.2	29.99	761.7	76	24.4	77	NW	4	1.8	.....	8k	0	NE	.....	0	0	Cloudy	
Cincinnati Ohio	29.35	745.5	29.97	761.2	77	25.0	82	N	3	1.3	.....	0	0	.....	.....	0.41	10.4	Clear	
Cleveland, Ohio	29.28	743.7	29.97	761.2	70	21.1	80	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.23	741.7	29.97	761.2	72	22.2	85	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.15	715.0	29.76	755.9	73	22.8	95	E	2	0.9	.....	0	10n	.....	Calm	0.64	16.3	Light rain	
Corsicana, Texas	29.60	751.8	30.05	763.3	75	23.9	90	N	2	0.9	.....	2k	0	N	.....	0	0	Fair	
Davenport, Iowa	29.41	747.0	30.02	762.5	79	26.1	82	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Denison, Texas	29.25	743.2	30.02	762.5	79	26.1	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	25.92	655.5	30.24	768.1	65	18.3	58	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.31	744.5	29.95	760.7	73	22.8	76	SW	6	2.7	.....	1k	0	W	.....	0	0	Clear	
Dodge City, Kansas	27.50	698.5	29.65	753.1	80	26.7	70	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.34	745.2	30.01	762.2	76	24.4	86	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.30	744.2	29.94	760.5	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.31	744.5	30.03	762.7	75	23.9	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.79	756.7	29.86	758.4	68	14.4	88	S	9	4.0	.....	.....	Fog	.....	Calm	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	85	29.4	44	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Erie, Pennsylvania	29.28	743.7	29.96	761.0	72	22.2	71	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.34	745.2	29.96	761.0	75	23.9	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	78	25.6	73	Calm	.....	.....	0	5cs	0	Calm	.....	Inap.	Inap.	Fair	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10ks	.....	E	0	0	Cloudy	
Fort Davis, Texas	25.31	642.9	30.27	768.8	73	22.8	59	E	3	1.3	.....	.....	0	Calm	.....	Inap	Inap.	Clear	
Fort Gibson, Indian Ter	29.48	748.8	29.93	761.7	83	28.3	83	SE	3	1.3	.....	2c	0	Calm	SE	0.06	1.5	Fair	
Fort Griffin, Texas	28.80	731.5	30.03	762.7	72	22.2	90	SE	3	1.3	.....	2ck	5s	Calm	.....	.....	.....	.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	
Fort Sill, Indian Territory	28.84	732.5	29.90	759.4	73	25.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.04	763.0	30.08	764.0	82	27.8	75	N	10	4.5	.....	0	5ks	.....	SE	0.20	5.1	Fair	
Grand Haven, Michigan	29.36	745.7	29.97	761.2	79	26.1	74	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.24	742.7	29.98	761.5	81	27.2	70	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	30.04	763.0	30.07	763.8	80	26.7	82	N	2	0.9	.....	1k	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.93	734.8	29.85	758.2	76	24.4	82	S	2	0.9	.....	1c	0	S	.....	0.15	3.8	Clear	
Jacksonville, Florida	30.00	762.0	30.02	762.5	83	28.3	75	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Keokuk, Iowa	29.38	746.2	29.95	760.7	85	29.4	68	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	85	29.4	76	E	9	4.0	.....	0	5ks	.....	E	0	0	Fair	
Kittyhawk, North Carolina	29.96	761.0	29.98	761.5	68	20.0	100	NE	12	5.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Knoxville, Tennessee	29.04	737.6	29.99	761.7	76	24.4	86	Calm	0	0	.....	2k	0	SW	.....	0.26	6.6	Clear	
La Crosse, Wisconsin	29.27	743.4	29.96	761.0	80	26.7	82	S	4	1.8	.....	8ck	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	69	20.6	61	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.61	752.1	29.94	760.5	79	26.1	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.90	632.4	.....	.....	71	21.7	66	S	6	2.7	.....	0	0	.....	.....	1.52	38.6	Clear	
Leavenworth, Kansas	29.17	740.9	29.96	761.0	81	27.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.58	751.3	29.91	759.7	65	18.3	78	W	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Louisville, Kentucky	29.43	747.5	29.96	761.0	79	26.1	82	NE	6	2.7	.....	0	Sm'c	.....	Calm	0.48	12.2	Clear	
Lynchburg, Virginia	29.32	744.7	29.96	761.0	79	26.1	69	NE	2	0.9	.....	0	5ks	.....	Calm	Inap.	Inap.	Fair	
Marquette, Michigan	29.27	743.4	29.93	760.2	77	25.0	57	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.42	721.9	30.11	764.8	75	23.9	99	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Memphis, Tennessee	29.73	755.1	30.03	762.7	83	28.3	79	S	3	1.3	.....	0	5ks	.....	NE	0	0	Fair	
Milwaukee, Wisconsin	29.28	743.7	29.97	761.2	78	25.6	86	NW	9	4.0	.....	2k	0	N	.....	0	0	Fair	
Mobile, Alabama	30.04	763.0	30.08	764.0	80	26.7	82	S	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Montgomery, Alabama	29.83	757.7	30.06	763.5	80	26.7	75	Calm	0	0	.....	Haze	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.98	736.1	29.99	761.7	71	21.7	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	23.79	604.3	30.15	765.8	48	8.9	70	NW	50	22.4	.....	0	Haze	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.49	749.0	29.99	761.7	86	30.0	72	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.86	758.4	29.97	761.2	74	23.3	75	SW	6	2.7	.....	8k	0	SW	.....	0	0	Cloudy	
New London, Connecticut	29.93	760.2	29.97	761.2	67	19.4	89	W	4	1.8	.....	2k	5s;fg	W	W;Calm	0	0	Clearing	
New Orleans, Louisiana	30.02	762.5	30.08	764.0	82	27.8	71	Calm	0	0	.....	0	0	.....	.....	0.34	8.6	Clear	
Newport, Rhode Island	29.92	760.0	29.97	761.2	66	18.9	84	SW	8	3.6	.....	.....	10ks	.....	SW	0	0	Threatening	
New York, New York	29.83	757.7	30.01	762.2	66	18.9	109	W	1	0.4	.....	Haze	Fog	.....	.....	Inap.	Inap.	Hazy	
Norfolk, Virginia	29.95	760.7	30.01	762.2	78	25.6	73	E	4	1.8	.....	1k	0	Calm	.....	0.04	1.0	Clear	
North Platte, Nebraska	27.12	688.8	29.54	750.8	73	22.8	83	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.17	766.3	30.21	767.3	45	7.2	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.90	734.0	29.90	759.4	84	28.9	75	S	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
Oswego, New York	29.62	752.3	29.92	760.0	72	22.2	71	W	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Pembina, Dakota	29.07	738.4	29.85	758.2	67	19.4	95	SE	11	4.9	.....	.....	8ks	.....	SW	0.58	14.7	Clearing	
Philadelphia, Pennsylvania	29.96	761.0	30.01	762.2	71	21.7	85	SW	7	3.1	.....	10cs	0	SW	.....	0.02	0.5	Cloudy	
Phœnix, Arizona	28.73	729.7	.....	.....	90	32.2	60	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.16	461.2	30.37	771.4	42	5.6	50	SW	6	2.7	.....	0	5s	.....	SW	0.20	5.1	Fair	
Ploche, Nevada	24.19	614.4	29.96	761.0	63	20.0	51	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
Pittsburg, Pennsylvania	29.20	741.7	29.98	761.5	67	19.4	89	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.28	743.7	29.91	759.7	75	23.9	77	SW	9	4.0	.....	10k	0	NW	.....	0	0	Cloudy	
Portland, Maine	29.89	756.9	29.85	758.2	67	19.4	84	SW	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Portland, Oregon	30.15	765.8	30.26	768.6	50	10.0	86	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.91	632.7	30.27	768.8	66	18.9	84	Calm	.....	.....	0	5ck	2ks	Calm	SW	0.15	3.8	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.04	763.0	30.06	763.5	84	28.9	79	E	4	1.8		0	0			0	0	Clear	
Red Bluff, California	29.53	750.0	29.87	758.7	74	23.3	43	NW	4	1.8		0	0			0	0	Clear	
Rochester, New York	29.33	745.0	29.92	760.0	71	21.7	71	W	9	4.0		5ck	0	W		0	0	Fair	
Roseburg, Oregon	29.63	752.6	30.20	767.1	52.5	11.4	86	N	2	0.9		0	0			0	0	Clear	
Sacramento, California	29.79	756.7	29.87	758.7	68	20.0	65	SE	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.46	748.3	29.99	761.7	84	28.9	68	NE	4	1.8		0	0			0	0	Clear	
St. Marks, Florida	30.04	763.0	30.05	763.3	79	26.1	91	NW	8	3.6		0	0			0	0	Clear	
St. Paul, Minnesota	29.10	739.1	29.87	758.7	78	25.6	90	SE	6	2.7		10k	0	W		0	0	Cloudy	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	71	21.7	49	S	4	1.8		5c	0	NW		0	0	Fair	
San Antonio, Texas	29.37	746.0	29.93	760.2	75	23.9	90	Calm	0	0		5c	0	Calm		0	0	Fair	
San Diego, California	29.88	758.9	29.95	760.7	64	17.8	94	Calm	0	0			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.36	745.7	30.00	762.0	74	23.3	76	SW	5	2.2		0	0			0	0	Clear	
Sandy Hook, New Jersey	29.97	761.2	30.00	762.0	78	25.6	73	W	3	1.3		8k	Haze	NW	Calm	0.03	0.8	Cloudy	
San Francisco, California	29.88	758.9	29.95	760.7	55	12.8	87	S	10	4.5		0	0			0	0	Clear	
Santa Fé, New Mexico	23.49	596.6	30.03	762.7	62	16.7	56	NE	1	0.4		0	0			0	0	Clear	
Savannah, Georgia	29.91	759.7	30.00	762.0	88	31.1	73	SW	7	3.1		5cs	0	Calm		0	0	Fair	
Shreveport, Louisiana	29.84	757.9	30.05	763.3	81	27.2	87	SW	1	0.4		8cs	0	S		0	0	Fair	
Silver City, New Mexico	24.41	620.0	30.44	773.2	63	17.2	57	S	2	0.9		2c	0	Calm		0	0	Clear	
Smithville, North Carolina	29.96	761.0	29.99	761.7	79	26.1	87	NE	4	1.8		8cs	0	NW		0	0	Cloudy	
Springfield, Massachusetts	29.76	755.9	29.88	758.9	74	23.3	72	S	4	1.8		5k	0	SW		0	0	Fair	
Stockton, Texas	27.02	686.3	30.02	762.5	71	21.1	62	SE	6	2.7			10n		Calm	0.10	2.5	Heavy rain	
Thatcher's Island, Mass	29.88	758.9	29.93	760.2	61	16.1	100	SW	12	5.4			Fog		Calm	0	0	Dense fog	
Toledo, Ohio	29.32	744.7	29.96	761.0	78	25.6	69	S	6	2.7		0				0	0	Clear	
Tucson, Arizona	27.45	697.2	30.00	762.0	78	25.6	72	S			1	5k	0	Calm		0	0	Fair	
Tybee Island, Georgia	29.95	760.7	29.98	761.5	85	29.4	76	W	6	2.7		0	0			0	0	Clear	
Umatilla, Oregon	29.73	755.1			59	15.0	70	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Mississippi	29.82	757.4	30.07	763.5	82	27.8	79	Calm	0	0		0	0			0	0	Clear	
Virginia City, Montana	24.34	618.2	29.82	757.4	64	17.8	43	SE	4	1.8		2k	0	Calm		0	0	Clear	
Visalia, California	29.54	750.3	29.89	759.2	69	20.6	61	NW	1	0.4			8s		Calm	0	0	Cloudy	
Washington, D. C.	29.91	759.7	30.02	762.5	75	23.9	90	SW	4	1.8			10s		SW	0	0	Cloudy	
Wickenburg, Arizona					64	17.8	29	Calm	0	0		2c	0	E		0	0	Clear	
Wilmington, N. Carolina	29.89	759.2	29.96	761.0	79	26.1	90	NE	4	1.8		8k	2s	N	NE	0	0	Cloudy	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	64	17.8	34	SW	6	2.7		2ck	0	S		0	0	Fair	
Wood's Holl, Mass	29.92	760.0	29.97	761.2	68	20.0	79	NW	5	2.2			10s		NW	0	0	Cloudy	
Yankton, Dakota	28.70	729.0	29.81	756.7	81	27.2	82	SE	4	1.8		8cs	0	W		0	0	Fair	
Yuma, Arizona	29.05	758.1	29.81	757.2	81	27.2	74	SW	1	0.4		2cs	0	Calm		0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska																			
York Factory, B. A.	29.46	748.3	29.52	749.8	66.5	19.2	69	SE	10	4.5		2k	4s	NE	SE	0.50	12.7	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.98	761.5	30.00	762.0	84	28.9	75	Calm	0	0		4c	4n	Calm	NE	0.04	1.0	Cloudy	Chas. Hasselbrink.
St. Thomas																			James Gall.
Kingston, Jamaica, W. I.	30.12	765.0	30.13	765.3	86	30.0	79	Calm	0	0		5c	2s	Calm		0	0		F. M. Everett.
Navassa, W. I.	29.89	759.2	29.97	761.2	84	28.9		E	3	1.3						0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.10	764.5	30.10	764.5	81	27.2	87	E			2	5k	6ks	E		0.100	2.54	½ cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.																			Thomas Herran
Medellin, Colombia, S. A.	25.24	641.1			67.0	19.4	82	Calm	0	0			10ks			0	0		

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,102 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.8 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,100.7 ft., or 4,313.1 m.; Pioche, 5,775.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	59	15.0	55	12.8	97	SW	20	8.9	.....	.....	10	.....	Calm	.....	.....	.....	.....	Heavy mist	
Navy Yard, Pensacola, Fla.	30.22	767.6	82	27.8	82	27.8	89	W	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Navy Yard, Portsmouth, N.H	29.90	759.4	72	22.2	69	20.6	75	SW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	29.83*	757.7*	78	25.6	77.5	25.3	86	SW	.....	.....	4	.....	7k;ck	.....	SW	0	0	.....	.....	Fair	
Alliance, Havre, France	30.10‡	764.5‡	.....	.....	65	18.3	94	WNW	.....	.....	1-2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ashuelot. Nagasaki, Japan	30.03	762 7	76	24.4	75	23.9	95	Calm	.....	.....	0	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.	
Alaska, N. 0° 15', W. 30° 05'	30.22	767.6	80	26.7	80	26.7	78	SE	.....	.....	4	.....	4	.....	SE	.....	.....	Long	SE	Pleasant	
Canonicus, New Orleans, La	30.08	764.0	56	13.3	79	26.1	86	SW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Colorado, New York, N. Y	30.00‡	762.0‡	.....	.....	69	20.6	90	WSW	5	2.2	.....	.....	8	.....	W	0.04	1.0	.....	.....	Hazy	
Constellation, N. 39° 54', W. 73° 56'	30.06‡	763.5‡	.....	.....	67	19.4	95	SW	.....	.....	2	.....	5	.....	S&W	.....	.....	Smooth	.....	Fair	
Constitution, Havre, France	30.08‡	764.0‡	.....	.....	64	17.8	73	W	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Despatch, Prince's Islands, Sea of Marmora	29.82‡	757.4‡	.....	.....	81	27.2	74	WSW	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Enterprise, S. 5° 15' 19", W. 60° 32' 27"	30.00‡	762.0‡	.....	.....	80	26.7	96	Calm	.....	.....	0	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va	30.15	765.8	79	26.1	77	25.0	77	ESE	5	2.2	.....	.....	1	.....	Calm	0.01	0.3	.....	.....	Clear	
Gettysburg Alexandria, Egypt	29.66‡	753.4‡	.....	.....	82	27.8	100	WNW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear	
Guard, Rio de Janeiro, Brazil	30.38	771.6	71	21.7	69	20.6	95	N	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Rainy	
Hartford, Rio de Janeiro, Brazil	30.37	771.4	.....	.....	69	20.6	95	NW	6 6	2.7	.....	.....	10	.....	N	1.3	33.	.....	.....	Light rain	
Marion, Villefranche, France	29.92	760.0	75	23.9	75	23.9	90	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	.....	Fair	
Michigan, Erie, Pa	29.49	749.0	73	22.8	73	22.8	76	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Yokohama, Japan	29.81‡	757.2‡	.....	.....	77	25.0	86	S	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C	30.20†	767.1†	.....	.....	82	27.8	87	W	11	4.9	.....	.....	8	.....	NE	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.09†	764.3†	.....	.....	60	15.6	88	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	29.85	758.2	85	29.4	73	22.8	??	NNW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....	Thunder-storm	
Pensacola, Mare Island, California	30.01	762.2	62	16.7	58	14.4	94	SSW	11	4.9	.....	.....	5	.....	SSW	.....	.....	.....	.....	Cloudy	
Plymouth. New York, N. Y	29.99‡	761.7‡	.....	.....	69	20.6	95	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Dense mist	
Ranger. Hong-Kong, China	29.93*	760.2*	.....	.....	83	28.3	91	S	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Raining	
Rio Bravo, Brownsville, Texas	30.00	762.0	76	24.4	76	24.4	95	NNE	.....	.....	1	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md	30.01‡	762.2‡	.....	.....	73	22.8	95	SW	.....	.....	1	.....	8	.....	W	0.35	8.9	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.98	761.5	74	23.3	72	22.2	90	SW	6	2.7	.....	.....	8	.....	SW	0	0	.....	.....	Fair	
Supply, Havre, France	30.15	765.8	65	18.3	66	18.9	74	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Swatara, Boston, Mass	29.95‡	760.7‡	.....	.....	66	18.9	100	SW	.....	.....	1	.....	8	.....	W	.....	.....	.....	.....	Misty	
Trenton, Leghorn, Italy	29.89‡	759.2‡	.....	.....	77	25.0	77	W	.....	.....	2	.....	1	.....	N;W	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico	29.76	755.9	79	26.1	80	26.7	87	WSW	.....	.....	0-1	.....	10	.....	Calm	1.45	36.8	.....	.....	Cloudy	
Vandalia, N. 35° 35' E. 35° 30'	29.60‡	751.8‡	.....	.....	86	30.0	60	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Wabash, Boston, Mass	29.92‡	760.0‡	.....	.....	71	21.7	81	WSW	5	2.2	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy	
Wyoming, N. 62° 44', W. 41° 02'	29.70	754.4	62	16.7	54	12.2	93	WSW	.....	.....	4	.....	10	.....	wsw	.....	.....	Mod'ate	WSW	D. clouds	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co peration of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Hong-Kong, China		29.86*	758.4*	84	28.9	96	SSE			2		8		S	1 hour	Light	S	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 10° 35′, W. 89° 8′		29.96†	761.0†	81	27.2	91	W			2		6		WNW	0	Very small	Confused.	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 36° 24′, W. 126° 05′																			
S. S. Zelandia		30.40‡	772.1‡	67	13.9	??	NW			8		8		NW	0	Large	WNW	Hazy	Capt. Fuller.
																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, N. 42° 6′, W. 55° 44′		29.98*	761.5*	62	16.7	94	ESE			4		10		SE	0	None		D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic,																			
S. S. Gaelic, N. 37° 30′ E. 145° 38′		29.72*	754.9*	74	23.3	86	SW			4		8; fog		SW	0	Smooth		Foggy	Capt. L. Myer.
S. S. Oceanic, N. 30° 40′, E. 127° 03′		29.84	757.9	67	19.4	95	SW			3		10		WSW		3	WSW	Foggy	Capt. W. H. Kidley.
																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 41° 57′, W. 60° 55′		29.96	761.0	66.0	18.9	84	NNE			1-2		5		NE	Blank		NE	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 48° 27′, W. 31° 56′		30.64*	778.2*	61	16.1	??	WNW			3		9		WNW	Light	Light	W	Cloudy	Captain Sargent.
S. S. Ohio. N. 40° 30′ W. 64° 30′		29.89	759.2	73	22.8	85	ENE			4		1		ENE	0	None		Clear	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.18†	766.6†	72	22.2	100	NW			4		6		NW	0			Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 65° 22′, W. 64° 53′		30.12*	765.0*	44.5	6.9	64	Calm			0	0	2s			0			Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 15, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.00	761.9	70.0	21.1	80	NE			2		1			0	0	Very fair	Dr. Ollive.
Nemours			29.93	760.3	79.2	26.2	67	NW			1		2			0	0	Fair	Michel.
Algiers			29.85	758.3	81.0	27.2	73	N			2		1			0	0	Very fair	Tourillere.
La Calle			29.88	758.9	83.3	28.5	81	NNW			1		2			0	0	Fair	Foufrede.
Tunis			29.03	764.2	94.8	34.6		E			4		0			0	0	Clear	Jacques.
Sfax			29.99	761.7	91.4	33.0		ENE			1		0			0	0	Clear	Gau.
Saida			29.96	761.0	90.6	32.5	19	W			2		0			0	0	Clear	Herbin.
Tebessa			30.04	762.9				S			4		1			0	0	Very fair	Watrin.
Geriville			30.02	762.6	87.8	31.0	23	SE			4		1			0	0	Very fair	Brugnlaux.
Laghouat			30.00	762.0	97.5	36.4	16	W			7		0			0	0	Clear	Berrand.
Biskra			29.95	760.6	107.6	42.0		SE			3		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saïda is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.35	745.6	29.88	758.9	77.7	25.4	62	SW			3		3			0.028	0.7		Prof. Ivan Stozu.
Cracow, I. R. Observatory	29.04	737.6	29.78	756.3	61.5	16.4	77	W			4		10			0.402	10.2		Dr. Wierzbiski.
Eperies	28.93	734.8	29.77	756.2	70.7	21.5	57	Calm			0		4cks			0.041	1.05		Julius Mikolik.
Gratz	28.71	729.3	29.92	760.0	70.5	21.4	58	NW			3		6			1.110	28.20		Andreas Rospini.
Hermannstadt	28.39	721.0	29.75	755.6	69.3	20.7	46	W			4		5			0	0		Prof. Reissenberg
Kremsmünster	28.66	728.0	29.99	761.7	58.3	14.6	74	W			3		10			0	0		Prof. C. Wagner
Lemberg	28.70	728.9	29.66	753.3	61.5	16.4	79	NW			3		7			0.008	0.2		Dr. T. Stanecki.
Pola	29.78	756.3	29.88	759.0	81.5	27.5	60	WSW			1		0			0	0		I.R.Hydrographic Office
Szathmar	29.36	745.8	29.81	757.2	69.4	20.8	56	SW			3		3			0.035	0.9		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.82	757.5	29.94	760.1	79.2	26.2	62	Calm			0		0			0	0	Clear	P. Busin.
Vienna	29.26	743.3	29.96	761.0	64.8	18.2	66	W			3		9			0.031	0.8		I.R. Central Met.Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.69	728.8	30.18	766.6	62.8	17.1	67	NW			2		9			0	0		Prof. M. Passau.
Brussels	29.98	761.4	30.17	766.4	66.0	18.9	68	WNW			4		10		NNW	0	0		Royal Observatory
Furnes	30.21	767.2	30.24	767.8	72.0	22.2	59	NW			3		3			0	0		M. E. de Cae.
Maeseyck	30.04	762.9	30.16	766.1	67.8	19.9	71	NW			3		0			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

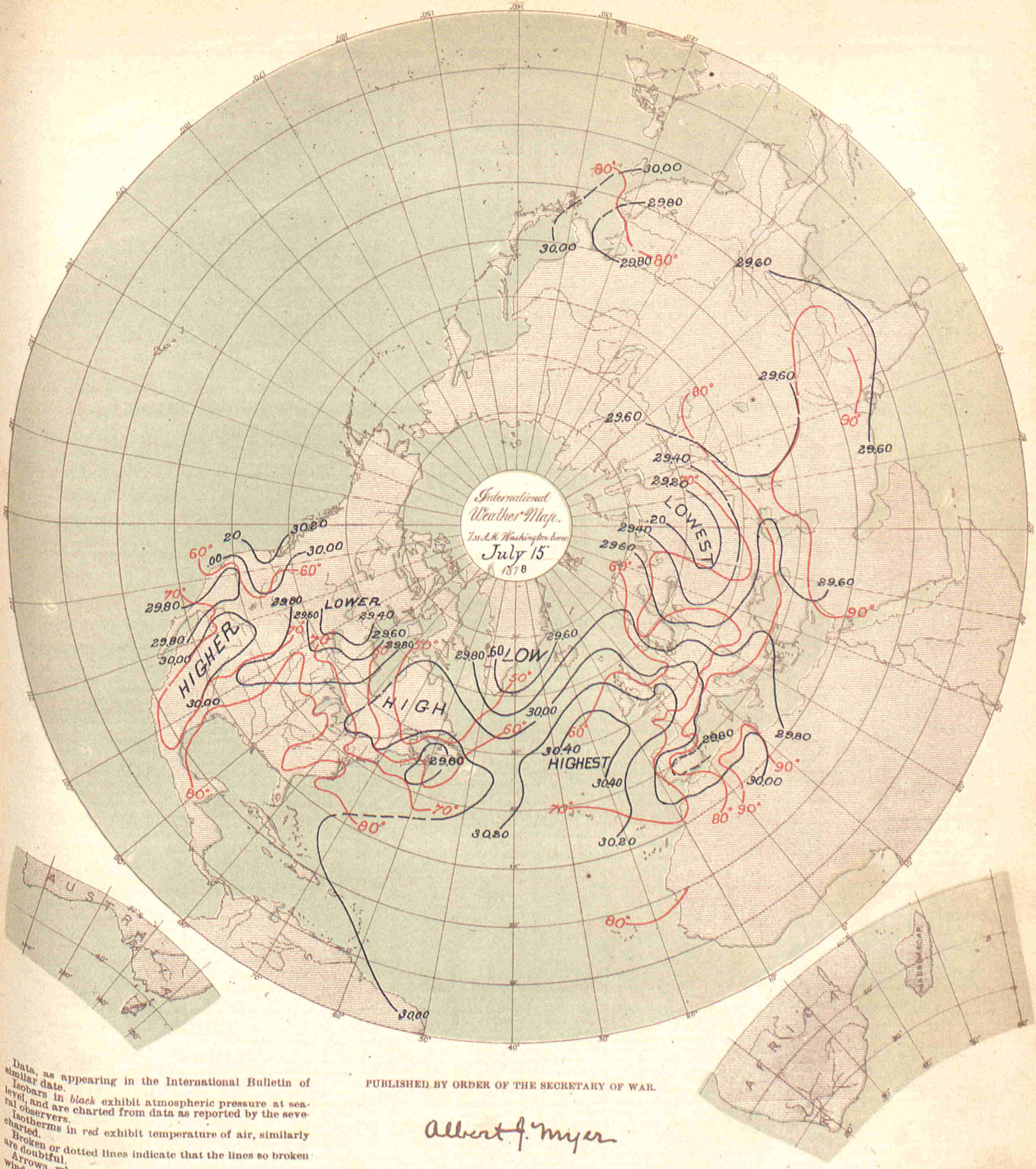
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.08	764.0	30.18	766.6	60.9	16.1	.....	SE	10	4.5	.....	.....	2	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.18	766.6	30.19	766.8	61	16.1	.....	WNW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	30.34	770.6	61.9	16.6	.....	WNW	6	2.7	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Cail.
Bidston, (Liverpool Obs.)	.....	.....	30.24	768.1	61.8	16.6	.....	W	18	8.0	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.31	769.9	64.8	18.2	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.78	756.4	30.17	766.3	68.3	20.2	.....	W	.....	.....	1	.....	5	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	30.03	762.7	30.06	763.5	77.5	25.3	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.19	766.8	69.0	20.6	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [H. C.
Cardington	.....	.....	30.22	767.6	67.0	19.4	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	30.06	763 5	30.19	766.8	69.2	20.7	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Overcast	Lt. W. G. Morris, R. E.
Dartmoor	28.77	730.7	30.23	767.8	61.0	16.1	.....	NE	.....	.....	3	.....	2	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	30.21	767.3	30.24	768.1	62	16.7	.....	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.19	766.8	30.22	767.6	67	19.4	.....	ESE	.....	.....	2	.....	3	.....	.....	.....	.....	½ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	30.20	767.1	64.8	18.2	.....	NW	7.4	3.3	.....	.....	8	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Falmouth, Observatory	30.08	764.0	30.30	769.6	64.0	17.8	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	28.04	712.2	30.33	770.4	61.0	16.1	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	82	27.8	.....	W	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.27	768.8	68	20.0	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.82	757.4	29.88	758.9	74.3	23.5	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.96	761.0	30.17	766.3	66.0	18.9	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	30.20	767.1	30.21	767.3	63	17.2	.....	NNE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.04	763.0	30.20	767 1	66.3	19.1	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	30.03	762.7	30.25	768.3	65	18.3	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.34	770.6	69	20.6	.....	N	.....	.....	2	.....	2c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.22	767.6	30.27	768.8	65	18.3	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	John Tilston.
Jersey	29.98	761.5	30.27	768.8	68.9	20.5	.....	N	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	30.21	767.3	65.2	18.4	.....	NW	5	2.2	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	30.26	768.6	30.28	769.1	65	18.3	.....	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	30.20	767.1	67.0	19.4	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.78	756.4	29.86	758.4	83.2	28.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	Sgt. Hewitt, A. H. C.
Nairn	30.06	763.5	30.15	765.8	68	20.0	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.93	760.2	89.5	31.9	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.01	762.2	30.19	766.8	72.5	22.5	.....	W	.....	.....	1	.....	5c;k	.....	.....	W	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.70	754.4	30.21	767.3	65.8	18.8	.....	NW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.22	767.6	65	18.3	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Plymouth	30.19	766.8	30.26	768.6	71.0	21.7	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	30.27	768.8	30.32	770.1	69	20.6	.....	N	.....	.....	2	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	30.24	768.1	30.29	769.4	61	16.1	.....	NW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.16	766.1	56.4	13.6	.....	W	17	7.6	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.69	754.1	86.4	30.2	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.94	760.5	30.21	767.3	71.1	21.7	.....	W	.....	.....	3	.....	4	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.16	766 1	30.19	766.8	78.2	25.7	57	Calm	.....	.....	0	.....	2	.....	.....	0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.80	756.9	30.21	767.3	62.5	16 9	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	Squally	Rev. S. J. Perry.
Stornoway, Lews C. (Hebr.)	30.10	764.5	30.14	765.5	62	16.7	.....	S	.....	.....	4	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	30.01	762 2	30.23	767.8	66.9	19.4	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.15	765.8	60	15.6	.....	NW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	30.31	769.9	66	18.9	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	30.37	771.4	62.6	17.0	.....	NW	9	4.0	.....	.....	6	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.92	760.0	52 0	11.1	80	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.04	763.0	30.23	767.8	70.0	21.1	73	ESE	18.0	8.0	.....	4	4	.....	ESE	0.03	0.8	Squally	C. Meldrum.
Melbourne, Observatory	29.88	758.9	29.97	761.2	46.7	8.2	73	NNE	13	5.8	.....	.....	7	.....	NW	0	0	Fine	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 51° 25', W. 15° 25'	.....	.....	30.42	772.7	65	18.3	.....	WNW	.....	.....	2	.....	4	.....	.....	5*	WNW	D. clouds	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 44° 15' W. 55° 15'	.....	.....	29.86	758.4	59	15.0	.....	Calm	.....	.....	0	.....	10	.....	.....	3	S	Foggy	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Peruvian, N. 49°, 0' W. 61° 10'	.....	.....	29.75	755.6	52	11.1	.....	NNE	.....	.....	5	.....	10	.....	.....	4	NNE	Rain & hail	Capt. W. H. Smith, [R. E. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 61° 12', W. 48° 10'	.....	.....	29.65	753.1	43	6.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Rain and fog	Capt. Alex. Simpson.
Barque Virginia, N. 48° 20', W. 31° 0'	.....	.....	30.39	771.9	63	17.2	.....	S	.....	.....	3	.....	10	.....	.....	3	S	Overcast	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas																			Mr. Ansart.
San José	26.21	665.7			67.6	19.8	92	SE			1	1c	7s;ck			0.4	10.		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.74	755.5	29.79	756.7	65.5	18.6	66	NW			2		3						
Fanöe	29.88	758.9	29.90	759.4	59.9	15.5	75	NW			6		10						
Godthaab, (Greenland)	29.63	752.5	29.67	753.6	43.0	6.1		NW			2		8						
Stykkisholm, (Iceland)	29.78	756.1	29.77	756.2	54.0	12.2	82	S			6		8						
Thorshavn, (Faröe)	30.00	762.1	30.04	763.0	55.0	12.8	80	NW			4		1						
Vestervig	29.65	753.2	29.82	757.5	62.2	16.8	77	NW			6		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alengon, Normal School	29.72	754.8	30.27	768.8	68.0	20	43	NE			4		5		SE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.08	764.1	30.19	766.8	71.6	22.0	66	NNE			2		5		SE	0	0	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.89	759.1	29.97	761.1	64.7	20.3	40	N			3		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.65	753.2	30.21	767.4	64.4	18.0	51	E			2		8ku		E	0	0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.97	761.2	30.25	768.3	68.7	20.4	54	NE			1		10		NNE	0	0	Covered	Normal School.
Besançon	29.28	743.8	30.16	766.0	67.3	19.6	59	NE			4				NE	0	0		Normal School.
Bourg-en-Bresse	29.26	743.3	30.19	766.8	74.1	23.4	76	N			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.59	751.6	30.19	766.8	68.0	20	55				4					0	0		A. Wagner, Director.
Brest, Naval Observatory	29.94	760.4	30.18	766.5	70.9	21.6	55	NE			4		2		NE	0	0		The Staff.
Carcassonne, Normal School	29.52	749.9	29.91	759.8	90.0	32.2	42	W			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.61	752.0	30.16	766.1	69.1	20.6	89	E			4		9		SW	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.90	759.4	30.21	767.4	65.8	18.8	73	NW			2		8ck		NW	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.75	730.3	30.07	763.6	72.5	22.5	42	N			2		0			0	0	Clear	Alluard, Director.
Commercy, Normal School	29.35	745.5	30.22	767.6	61.2	16.2	69	N			2		5		S	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.87	733.2	30.01	762.2	92.3	33.5	21	NW			2		2		NW	0	0	¼ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.95	760.8	30.16	766.0	75.4	24.1	50	E			6		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.92	759.9	30.22	767.6	68.2	20.1	53	NE			4		2		E	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.30	744.2	30.19	766 8	67.1	19.5	51	N			3		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.11	764.9	30.22	767.5	72.7	22.6	68	NE			3		2		NE	0	0	¼ Covered	T. Carré, Director.
Mâcon, Normal School	29.42	747.3	30.09	764.3	68.4	20.2	65	NE			6		0			0	0	Clear	M. Galzin, Director.
Mirecourt	29.13	740.0	30.17	766.3	62.2	16.6	85	N			1		1		S	0	0	Clear	Normal School
Nismes, Normal School	29.74	755.3	29.93	760.1	88.2	31.2	31	N			2		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.76	756.0	30.13	765.3	81.5	27.5	58	NE			2		2		NE	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.98	761.5	30.22	767.5	66.7	19.3	54	NE			1		9		ENE	0	0	Almost cov'd	National Observatory.
Privas	29.90	736.6	30.02	762.5	77.5	25.3	43	N			2		1		N	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.07	763.8	30.19	764.6	78.4	25.8	26	ENE			5		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.13	765.4	30.22	767.5	71.2	21.8	51	N			1		5		N	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.93	734.9	29.97	761.3	73.4	23	74	SW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.42	747.2	30.11	764.8	72.5	22.5	66	N			4		0			0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.92	759.9	79.5	26.4										7.88	200.		L'Abbé Marchés.
Lyons			29.14	765.6	73.0	22.8	44						0			0	0		L. Jays.
Marseilles, Observatory			29.92	759.9	86.4	30.2	46	W			1		2			0	0	Slightly cl'dy	The Staff.
Mont-Louis	24.97	634.3	30.29	769.3	70.5	21.4	59	ESE	5.6	2.50			1		SE	0	0		M. Cave.
Nice			29.95	760.7	75.2	24.0	83	E			1		4			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.94	760.4	30.21	767.4	65.7	18.7	67	Calm			0		9		NNE	0	0		Marié Davy, Director
Perpignan			30.00	762.0	82.9	28.3	58	S	9.3	4.17			5		W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.71	576.7			54.1	12.3		SSE			3		10			0	0		Gen'l de Nansouty.
Saint Maur, (near Paris)	30.07	763.6	30.23	767.8	65.7	18.7	66	NE			1		10		NNE	0	0	Covered	E. Renou.
Toulouse, Observatory	29.33	744.9	30.05	763.3	84.6	29.2	48	N			1		2			0	0		The Staff.
Tours	29.98	761.5	30.18	766.5	70.5	21.4	49	ENE			4		0			0	0		C. Marquet.
Versailles, (near Paris)			30.23	767.9	68.7	20.4	43	NE			2		10			0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.79	756.6	29.82	757.2	82.0	27.8	86	SE	10.5	4.7		10ck				0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.17	740.8	30.01	762.3	63.5	17.5	64	NW	.....	.....	4	.....	9	W	.....	0.098	2.5	.....	Prof. Dr. Hoh.
Berlin	29.74	755.4	29.91	759.6	60.9	19.4	78	NW	.....	.....	4	.....	8	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.35	745.5	29.88	758.9	62.8	17.1	74	WNW	.....	.....	7	.....	7	.....	.....	0.100	2.53	.....	Royal University Obs'y
Carlsruhe	29.74	755.3	30.16	766.1	62.6	17.0	64	N	.....	.....	1	.....	9	.....	.....	0	0	.....	Albert Senz.
Cassel	29.49	749.0	30.10	764.5	63.7	17.6	66	NNW	.....	.....	4	.....	8	NW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.95	760.7	30.11	764.8	65.5	18.6	61	NE	.....	.....	4	.....	7k	.....	.....	0.04	1.	.....	Director Lose.
Emden	30.06	763.4	30.10	764.4	57.4	14.1	65	NNW	.....	.....	5	.....	7	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.79	756.6	30.15	765.7	65.1	18.4	.....	NW	.....	.....	2	.....	10	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.69	728.6	30.08	764.1	56.5	29.7	85	SW	.....	.....	1	.....	1	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.89	759.2	29.96	761.0	62.2	16.8	84	NNW	.....	.....	6	.....	7k	.....	.....	0.043	1.1	Squally.....	Captain F. Hegemann.
Kiel	29.90	759.4	29.91	759.8	62.1	16.7	67	WNW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.58	751.2	29.65	753.2	65.1	18.4	69	NW	.....	.....	2	.....	4	.....	.....	0.283	7.2	.....	Prof. E Luther.
Köslin	.....	.....	29.50	756.8	63.1	17.3	.....	NW	.....	.....	6	.....	3	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.59	751.6	30.01	762.2	61.2	16.2	72	W	.....	.....	3	.....	9	WNW	.....	0.252	6.4	Rainy.....	Prof. Bruhns.
Memel, Naval School	29.60	751.9	29.65	753.1	64.0	17.8	72	WNW	.....	.....	5	.....	10cs;s	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.71	754.6	29.72	755.0	63.7	17.6	76	N	.....	.....	2	.....	4	E	.....	0.047	1.2	.....	A. Lothes.
Posen	29.58	751.3	29.86	758.5	62.4	16.9	76	NW	.....	.....	8	.....	9	.....	.....	0.075	1.9	.....	Dr. Magener.
Strassburg (in Alsace)	29.66	753.4	30.21	767.2	63.0	17.2	67	N	.....	.....	1	.....	10	NNW	.....	0	0	.....	Astronomical Observatory.
Stuttgart	29.19	741.5	30.13	765.2	60.4	15.8	61	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.62	749.9	30.05	763.2	65.8	18.8	61	W	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.61	726.8	29.94	760.4	55.9	13.3	67	NNW	2	1	.....	.....	10	.....	W	0	0	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.87	758.6	29.91	759.6	62.8	17.1	68	WNW	.....	.....	4	.....	8	.....	.....	0.071	1.8	.....	E. F. Schütz.
German Naval Series	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.88	746.3	29.75	755.6	97.0	36.1	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	748.9	29.53	750.2	87.4	30.8	72	SW	26?	11.6?	.....	.....	6	.....	SW	0	0	D. clouds.....	
Deesa	29.13	739.8	29.59	751.5	93.6	34.2	57	SW	.....	.....	.....	.....	6	SW	.....	0	0	Misty.....	
Bombay	29.62	752.4	29.66	753.3	85.6	29.8	81	W	10	4.5	.....	.....	5	WNW	.....	0.96	24.4	D. clouds.....	
Poona	27.66	702.6	29.61	752.9	80.3	26.8	75	W	.....	.....	.....	.....	6	.....	WNW	0	0	D. clouds.....	
Lahore	28.80	731.5	29.52	749.9	90.1	32.3	52	NW	1.2	0.5	.....	.....	0	.....	.....	0	0	Blue sky.....	
Belgaum	27.18	690.3	29.69	754.2	77.8	25.4	87	W	9	4.0	.....	.....	8	E	W	0	0	D. clouds.....	
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Roorkee	28.59	726.2	29.46	748.2	92.2	33.4	48	NW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	
Agra	28.95	735.4	29.49	749.1	97.1	36.2	51	W	1	0.4	.....	.....	.....	.....	.....	0	0	.....	
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nagpur	28.57	725.7	29.60	751.9	82.6	28.2	80	Calm	3.1	1.4	.....	.....	9	E	.....	0	0	D. clouds....	
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Lucknow	29.11	739.3	29.46	748.4	94.1	34.5	61	Calm	1.9	0.8	.....	.....	0	.....	.....	0	0	Blue sky.....	
Allahabad	29.18	741.1	29.47	748.6	99.7	37.6	50	Calm	2.9	1.3	.....	.....	10	.....	.....	0	0	Overcast.....	
Patna	29.35	745.6	29.53	750.0	91.1	32.8	67	E	1.2	0.5	.....	.....	8	E	E	0.98	24.9	D. clouds.....	
Hazaribagh	27.59	700.7	29.57	751.0	82.0	27.8	73	E	6.0	2.7	.....	.....	10	.....	W	0.11	2.8	Thunder,light'ng	
Cuttack	29.51	749.6	29.59	751.6	85.0	29.4	79	S	3.1	1.4	.....	.....	10	.....	.....	.....	.....	Raining.....	
Calcutta (Alipore)	29.58	751.4	29.60	751.9	78.1	25.6	95	S	2.0	0.9	.....	.....	9	S	.....	0.80	20.3	Overcast.....	
Goalpara	29.21	741.8	29.59	751.6	79.9	26.6	90	W	2.1	0.9	.....	.....	9	.....	.....	0.11	2.8	D. clouds.....	
Chittagong	29.56	750.8	29.65	753.1	83.9	28.8	83	SSE	4.3	1.9	.....	.....	4	.....	.....	0	0	Misty.....	
Sibsagar	29.25	742.9	29.58	751.3	85.2	29.6	79	S	4.1	1.8	.....	.....	10	W	W	0.15	3.8	Overcast.....	
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Jubbulpore	28.26	717.8	29.60	752.0	83	28.5	77	SSW	3.8	1.7	.....	.....	8	.....	.....	0.43	10.9	Overcast.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,969 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.51	749.6	29.91	759.6	80.1	26.7	51	SW	0.7	0.3			2			1.721	43.7		Prof. Giovanni Clodig.
Padua	29.79	756.6	29.89	759.3	81.0	27.2	61	SE	1.3	0.6			6	WSW		0	0		Prof. Dott. Lorenzoni
Vicenza	29.71	754.5	29.78	756.1	82.8	28.2	61	SW	2.0	1.1			2			0	0		Conte Alm. Da Schio.
Bergamo	28.62	726.9	29.88	759.0	83.1	28.4	61	W			1		2			0	0		Prof. Trionfini Carlo.
Milan	29.39	746.4	29.88	759.0	85.6	29.8		ENE			1		2	SE		0	0		Prof. Schiaparelli.
Moncalieri	29.60	736.7	29.87	758.6	84.4	29.1	43	SSE	0.7	0.3			3	N		0	0		Prof. P. F. Denza.
Mondovi	28.04	712.1	29.85	758.3	79.5	26.4	60	E			2		1	WNW		0	0		Prof. D. C. Bruno.
Porto Maurizio	29.76	756.8	29.97	761.3	76.6	24.8	71	ESE			2		10			0	0		Prof. L. Vassallo.
Genoa	29.77	756.2	29.94	760.4	75.7	24.3	65	SW			2		2	E		0	0		Prof. G. M. Garibaldi.
Parma	29.59	751.6	29.89	759.2	81.9	27.7	54	NW			2		0			0	0		Prof. P. Pigorini.
Florence	29.68	753.8	29.92	760.0	82.9	28.3	61	N			4		0			0	0		Cav. F. Meucci.
Leghorn	29.84	757.9	29.92	760.0	76.3	24.6	66	NW	4.3	1.9			3			0	0		Prof. P. Monte.
Pesaro	29.86	758.5	29.91	759.7	77.5	25.3	70	NE					0			0	0		Prof. Luigi Guidi.
Urbino	29.41	721.6	29.90	759.5	80.8	27.1	40	NE			1		1			0	0		Prof. P. Serpieri.
Grosseto	29.81	757.2	29.92	759.9	83.5	28.6	46	ENE			4		2	S		0	0		Avv. P. Ponticelli.
Rome	29.75	755.6	29.92	759.9	85.6	29.8	46	W	6.3	2.8			0			0	0		Prof. P. G. S. Ferrari.
Naples, O. U.	29.75	753.6	29.94	760.5	82.9	28.3	56	SSW			2		1	NW		0	0		Prof. L. Palmieri.
Lecce					84.0	28.9	38	ENE	6.8	2.8			1	S		0	0		Prof. C. De Giorgi.
Cagliari	29.72	755.0	29.91	759.7	80.8	27.1	71	S			2		0			0	0		Prof. A. Pacinotti.
Cosenza	29.04	737.5	29.87	758.7	83.2	28.0	58	SW	4.9	2.2			0			0	0		Prof. F. D. Conti.
Palermo	29.71	754.5	29.95	760.7	81.5	27.5	54	E	3.1	1.4			0			0	0		Prof. G. Cacciatore.
Syracuse	29.76	755.9	29.84	757.8	81.5	27.6	61	NE			1		0			0	0		Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.1	29.97	761.2	82.9	28.3	58	E	0	0			0			0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 879.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.84	757.9	30.04	763.0	77.3	25.2	87	SSW	3.0	1.4			1cs;ks	SW				Fair	
Tokei (Yeddo)	29.91	759.7	29.97	761.2	74.2	23.4	89	Calm	0	0			10s			0	0	Cloudy	The Observatory.
Tokei (Yeddo) University	29.87	758.7	29.97	761.2	76.5	24.7	91	Calm	0	0		7cs	3ks		SW	0	0	Cloudy	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca					64.0	17.8	53	NW	0.9	0.4		0	4ks		E	0.11	2.8	⅜ cloudy	L. Castillo, A. E.
Guadalajara	25.13	638.2	30.08	764.0	60.8	16.0	87	Calm	0	0		0	4		NE	0	0	⅜ cloudy	Prof. L. Peres.
Guanajuato	29.75	603.4	29.91	759.7	63.5	17.5	76	Calm	0	0		0	0			0	0	Hazy	Prof. V. Fernandez
Leon					63.3	17.4	86	NNW	0.9	0.4		2c	1s	NE		0.03	0.6		Prof. M. Leal.
Mexico	23.15	588.1	30.16	765.9	67.7	14.3	87	Calm	0	0		0	9k		NW	0	0	Cloudy	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalts)					64.9	18.3	85	Calm	0	0		3c	4ks	SE		0.04	1.0	Cloudy	M. V. de Leon, M. E.
Puebla															SE				Prof. B. Gonzalez.
Toluca																			Prof. C. Velazquez.
Tlacotalpam	29.98	761.7	30.00	762.0	77.9	25.5	94	N	0.9	0.4		0	10n			0.06	1.5	Rainy	Prof. F. R. Bayly.
San Luis Potosi	24.29	616.2	30.23	767.8	60.0	15.6	30	E	0.9	0.4		0	10k		E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.99	761.9	30.02	762.6	78.8	26.0	84	NW	4.9	2.2		2c	7sk		SW	0.21	5.4	Cloudy	Prof. J. Rossell.
Zacatecas					58.6	14.8	78	NE	1.8	0.8		0	5			0	0	⅜ cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.31	592.1	30.04	763.1	51.8	11.0	93	NE	0.4	0.2		1	0			0 28	7.0	Clear	Prof. P. Spina, [M.M.D.D.
Morelia	24.09	612.0			66.2	19.0	66	NE	0.9	0.4		0	4k		E	0.30	7.5	⅜ cloudy	M. Tena, F.L. Paramo,
Durango	24.32	617.8	30.14	765.5	68.0	20.0	87	W	0.9	0.4		0	10k			0	0	Covered	M. V. de Leon, C. E.
Colima	28.42	721.9	30.00	762.4	78.4	25.8	84									0	0	Clear	R. Banda, C. E.
San Juan E. Mirhapam																			Antonio Guerra y Guerra.

Note.—The elevation of Aguascallentes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,771 m., or 5,830 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.29	767.1	30.29	767.1	66.6	19.2		W			4					0	0		
Groningen	30.03	762.8	30.09	764.2	59.5	15.3		NW			4					0.067	1.7		
Helder	30.13	765.3	30.13	765.3	58.8	14.9		NW			4					0	0		
Hellevoetsluis	30.16	766.0	30.16	766.0	66.9	19.4	68	WNW			2								
Utrecht	30.12	765.0	30.17	766.2	68.0	20.0	69	NW			4		5			0	0	Cloudy	H. v d Broek.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.87	758.7	29.93	760.1	57.2	14.0	76	NNW	16.1	7.2	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.78	756.5	29.82	757.5	54.3	12.4	94	SW	4	2	.....	.....	10	.....	.....	0.228	5.8	Light rain...	
Christiania	29.54	750.4	29.65	753.9	75.2	24.0	60	SSW	2	1	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.67	753.5	29.71	754.6	55.4	13.0	77	NE	4	2	.....	.....	0	.....	.....	0.134	3.4	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h.,4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.16	766.1	30.35	770.9	69.8	21.0	77	NE	10.5	4.7	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.90	734.1	29.89	759.2	79.0	26.1	40	SSE	5.6	2.5	.....	.....	9	SSE	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.99	761.8	30.08	764.0	73.9	23.3	60	SW	3.5	1.7	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.56	750.7	29.91	759.7	69.1	20.6	64	SW	9.8	4.4	.....	.....	8	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.24	768.1	30.31	769.9	71.6	22.0	59	NE	8.7	3.9	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, St. Paul De Loanda	.....	.....	30.12	765.0	71.2	21.8	.....	WNW	.....	.....	1	.....	6	.....	.....	1	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58', E. 32° 37'	.....	.....	30.39	771.8	71.6	22.0	.....	SSE	.....	.....	4	.....	10	.....	S	2	S	Drizzling.....	J. T. d'Oliveria, Com'd't.
Sado, Porto Praya, Cape Verde Islands	.....	.....	30.00	762.0	85.1	29.5	.....	SSW	.....	.....	2	.....	5	.....	SW	2	S	D. clouds.....	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	.....	.....	30.03	762.7	70.7	21.5	.....	WNW	.....	.....	1	.....	6	.....	.....	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo, N. 22° 10' 30" E. 113° 32'	.....	.....	29.77	756.2	82.4	28.0	.....	SW	.....	.....	3	.....	6	.....	SW	1	.....	D. clouds.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.26	743.3	29.67	753.7	66.6	19.2	55	W	11	5	.....	.....	6ks;k	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.14	740.2	29.55	750.5	62.8	17.1	64	NW	7	3	.....	.....	10	.....	.....	.....	Raining.....	Astronomical Obs.
Dorpat	29.22	742.1	29.45	747.9	72.5	22.5	60	NE	9	4	.....	.....	9ck	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.45	748.0	29.47	748.4	72.5	22.5	48	E	13	6	.....	.....	4cs	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.90	734.0	29.50	759.4	69.6	20.9	54	W	4	2	.....	.....	10ks;cp	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.56	750.8	29.63	752.6	74.8	23.8	61	W	13	6	.....	.....	4ck	.....	.....	.....	.....	Kurdakof.
Kertch	29.67	753.7	29.69	754.2	74.8	23.8	76	S	9	4	.....	.....	10	.....	.....	.....	.....	Lagorio.
Moscow	28.80	731.6	29.32	744.7	72.1	22.3	62	S	11	5	.....	.....	7ks	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.30	744.3	29.50	749.3	68.2	20.1	75	S	2	1	.....	.....	9n	.....	.....	Blank	Blank	Meteorological Obs.
Archangel	29.52	749.7	29.54	750.2	69.8	21.0	35	NNE	9	4	.....	.....	0	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.36	720.3	29.53	760.0	85.5	29.7	37	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.73	755.1	29.65	753.0	78.6	25.9	48	SSW	9	4	.....	.....	9ks;n	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	28.92	734.5	29.17	741.0	64.0	17.8	90	Calm	0	0	.....	.....	9	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.35	720.1	29.25	743.0	63.0	17.2	83	SW	9	4	.....	.....	9n	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.37	746.0	29.59	751.5	96.6	35.9	59	ESE	9	4	.....	.....	1ks	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.15	714.9	29.73	755.1	88.3	31.3	95	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Michelson.
Barnaul	29.26	743.2	29.74	755.5	84.6	29.2	29	NW	4	2	.....	.....	7	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.44	747.7	29.71	754.7	75.7	24.3	37	SW	2	1	.....	.....	0	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.62	752.3	29.76	755.9	74.8	23.8	87	NE	2	1	.....	.....	8n	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 51° 47', E. 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.95	760.8	77.5	25.3	64	E	5.7	2.56	.....	7	2ks	SW	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	761.9	30.05	763.3	77.9	25.5	72	NW	3.4	1.50	.....	3	5	SE	.....	0.130	3.29	Almost cov.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.0	.....	.....	73.8	23.2	64	NE	10.8	4.83	.....	.....	6	.....	.....	0	0	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.90	703.7	29.76	756.0	92.3	33.5	33	SE	11.9	5.34	.....	0	6	.....	.....	0	0	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.76	755.8	29.90	759 4	87.1	30.6	56	SE	5.3	2.39	.....	4	4	NE	.....	0	0	Almost cov.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.06	738.0	29.92	760.0	72.3	22.4	72	NE	39.1	17.50	.....	.....	8	.....	.....	0.327	8.3	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.90	759.4	29.96	761.1	84.1	28.9	80	Calm	0	0	.....	0	1k	.....	.....	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.3	29.95	760.7	72.9	22.7	57	W	9.1	4.1	.....	0	3	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	82.4	28.0	86	SE	0	0	.....	1s	2k	SE	SE	0	0.	Clear.	Leonardo de Tejeda, Ch'f Eng'rs

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.57	751.1	29.61	752.1	68.7	20.4	.....	NNW	.....	.....	4	.....	4	.....	.....	0	0	.....	
Umea	29.64	752.9	29.69	754.2	64.8	18.2	80	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Hernosand	29.57	751.0	29.62	752.3	69.8	21.0	86	NNE	.....	.....	4	.....	0	.....	.....	0.020	0.5	.....	
Stockholm	29.47	748.5	29.65	753.0	68.7	20.4	80	NNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.57	751.0	29.63	752.5	64.4	18.0	80	NW	.....	.....	6	.....	7	.....	.....	0.180	3.3	.....	
Sub-Series.																			
Upsala	29.52	749.8	29.60	751.7	69.8	21.0	72	NNW	11.0	4.9	.....	.....	6	NE	N	0.051	1.29	.....	Dr. Hildebrandsson.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.67	728.1	30.04	763.0	72.5	22.5	62	N	.....	.....	1	.....	1	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.61	724.1	30.10	764.5	68.4	20.2	55	NW	.....	.....	2	.....	2	.....	.....	0	0	Clear.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.5 mm.; Thermometer, —0.1 cent.; Relative Humidity, +9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.74	755.8	80.2	26.8	55	N	8	3.5	.....	.....	3	.....	SW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.06	763.5	82.9	28.3	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obsty	29.53	750.0	29.64	752.9	93.7	34.3	65	SW	.....	.....	2	.....	0	.....	.....	0	0	D. clouds....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.86	758.4	29.92	760.0	56.9	13.8	81	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.70	754.4	30.00	762.0	68	20.0	.....	NE	5	2.2	.....	2c	0	SW	.....	0	0	Clear.....	W. R. Bigg.
*Chatham, N B	29.85	758.2	29.91	759.7	54	12.2	80	N	11	4.9	.....	.....	10s	.....	N	0.42	10.7	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island.	29.72	754.9	29.76	755.9	58	14.4	91	NW	10	4.5	.....	.....	10n	.....	Calm	0.260	6.60	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.80	756.9	29.98	761.5	62.8	17.1	65	NE	.....	.....	2	0	2s	.....	.....	0	0	Clear.....	James Smith, M. A.
Dalhousie, N. B	29.79	756.7	29.95	760.7	56.9	13.8	79	W	.....	.....	1	.....	.....	.....	.....	0.97	24.6	Fine.....	H. A. Johnson.
Esquimault, B. C	30.01	762.2	30.06	763.5	53.2	11.8	100	W	.....	.....	.....	5cs	0	.....	.....	0	0	Fair.....	W. H. Bevis.
*Father Point, Quebec	29.98	761.5	30.00	762.0	49	9.4	87	SW	4	1.8	.....	5c	0	NW	.....	0.22	5.6	Fair.	J. McWilliams.
Fredericton, N. B	29.88	758.9	29.95	760.7	54.9	12.7	79	NE	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	28.95	735.3	29.74	755.4	67	19.4	97	S	6	2.7	.....	2k	5ks	S	S	1.140	28.96	Clearing....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.92	734.6	29.97	761.2	71	21.7	95	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.63	752.6	29.76	755.9	62	16.7	86	NW	6	2.7	.....	.....	10n	.....	NW	0.039	0.99	Cloudy.	F. Allison, M. A.
Hamilton, Ontario	29.65	753.1	30.00	762.0	72.5	22.5	80	E	.....	.....	1	2ck	0	SE	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	30.00	762.0	30.02	762.5	66	18.9	49	SW	.....	.....	1	2c	1ks	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.68	753.9	30.00	762.0	67	19.4	68	NE	11	4.9	.....	5c	Sm'e	NE	NE	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.60	751.8	29.64	752.8	56.0	13.3	.....	S	8	3.6	.....	9ks	0	S	.....	0.10	2.5	Overcast....	C. H. Rigby.
*Montreal, Quebec	29.84	757.9	30.04	763.0	62	16.7	61	W	10	4.5	.....	5c	0	N	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.30	744.2	29.96	761.0	72	22.2	83	E	7	3.1	.....	0	0	.....	.....	0	0	Clear....	Rev. R. Mosley.
Peterboro, Ontario	29.29	744.0	30.00	762.0	72.7	22.6	66	Calm	.....	.....	0	0	0	.....	.....	0	0	Bright.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.33	745.0	29.99	761.7	70	21.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	H. Morgan.
Port Hastings, N. S	29.72	754.9	29.76	755.9	62.6	17.0	.....	S	3	1.3	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.37	746.0	29.98	761.5	71	21.7	85	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	M. Payne.
*Quebec, Quebec	29.72	754.9	30.03	762.7	57	13.9	69	E	.....	.....	1	2k	2ks	E	E	0.16	4.1	Fair.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.60	751.8	30.04	763.0	64	17.8	75	NE	2	0.9	.....	2c	0	NW	.....	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.82	757.4	29.87	758.7	56	13.3	90	NE	7	3.1	.....	5k	5ks	NE	.....	0.09	2.3	Cloudy.....	Dr. Gove.
St. John, N. B	29.74	755.4	29.90	759.4	55	12.8	87	N	11	4.9	.....	.....	10ks	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.37	746.0	30.05	763.3	74	23.3	86	S	5	2.2	.....	0	0	.....	.....	0	0	Clear.	K. Stewart.
Stayner, Ontario	29.21	741.9	29.95	760.7	77	25.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.78	729.7	29.96	761.0	66.9	19.4	98	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.75	755.6	29.78	756.4	58	14.4	91	S	9	4.0	.....	.....	10n	.....	SW	0.01	0.3	Light rain...	T. C. Hill.
*Toronto, Ontario	29.63	752.6	30.00	762.0	73	22.8	65	NE	7	3.1	.....	5ck	Haze	NW	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	83	E	.....	.....	.....	1c	2s	.....	.....	Inap.	Inap.	Fair.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the SECRETARY OF WAR.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0–10	CLOUDS. Amount. Low'r. 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29 69	754.1	29.91	759.7	67	19.4	64	N	10	4.5	.....	Haze	Sm'e	.....	.....	0	0	Dense smoke	
Alpena, Michigan	29.27	743.4	29.87	758.7	74	23.3	76	W	1	0.4	.....	5ck	Haze	NW	.....	0	0	Fair	
Atlantic City, New Jersey	29.87	758.7	29.89	759.2	77	25.0	86	W	7	3.1	.....	5c	Haze	Calm	Calm	0	0	Fair	
Augusta, Georgia	29.75	755.6	29.93	760.2	80	26.7	87	NE	3	1.3	.....	.....	10ks	.....	NE	0.46	11.7	Threatening	
Baltimore, Maryland	29.87	758.7	29.92	760.0	81	27.2	63	N	4	1.8	.....	2c	Haze	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	29.87	758.7	29.89	759.2	76	24.4	81	NW	5	2.2	.....	2c	Haze	NW	Calm	0	0	Hazy	
Bismarck, Dakota	27.80	706.1	29.65	753.1	82	27.8	71	SE	13	5.8	.....	2cs	0	Calm	.....	0	0	Clear	
BoiseCity, Idaho	27.14	689.3	30.02	762.5	59	15.0	43	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.74	755.4	29.89	759.2	73	22.8	72	NE	14	6.3	.....	5k;hz	Haze	NE;Calm	Calm	0.02	0.5	Hazy	
Brackettville, Texas	28.82	732.0	29.80	756 9	79	26.1	74	S	1	0.4	.....	2cs	0	Calm	.....	0	0	Clear	
Breckenridge, Minnesota	28.72	729.5	29.64	752.8	76	24.4	91	E	17	7.6	.....	2k	0	W	.....	0.10	2.5	Fair	
Brownsville, Texas	29.91	759.7	29.97	761 2	82	27.8	83	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.28	743.7	29.95	760.7	73	22.8	85	SW	4	1.8	.....	8k	0	W	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.76	755.9	30.01	762.2	60	15.6	70	N	6	2.7	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Cairo, Illinois	29.59	751.6	29.95	760.7	88	31.1	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	83	W	.....	.....	1	.....	10s	.....	S	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	69	20.6	65	N	.....	.....	1	0	8s	.....	N	2.02	51.3	Cloudy	
Camp Verde, Arizona	26.77	680.0	30.26	768.6	71	21.7	90	SE	.....	.....	1	.....	10s	.....	S	0.06	1.5	Cloudy	
Campo, California	27.39	695.7	29.96	761.0	58	14.4	87	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.93	760.2	29.94	760.5	78	25.6	61	NE	6	2.7	.....	2k	0	NE	.....	0	0	Fair	
Cape Henry, Virginia	29.90	759.4	29.92	760 0	77	25.0	73	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	77	25.0	73	NE	10	4.5	.....	8k	0	NE	.....	0	0	Cloudy	
Cape May, New Jersey	29.90	759.4	29.92	760.0	74	23.3	90	W	6	2.7	.....	5c	0	W	.....	0	0	Fair	
Charleston, South Carolina	29.88	758.9	29.94	760.5	80	26.7	82	E	7	3.1	.....	0	0	.....	.....	5.14	130.6	Clear	
Cheyenne, Wyoming	23.98	609.1	29.92	760 0	63	20.0	51	W	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.25	742.9	29.90	759.4	80	26.7	70	Calm	0	0	.....	5k	Sm'e	NW	.....	0	0	Fair	
Cincinnati Ohio	29.30	744.2	29.92	760.0	80	26.7	80	SE	3	1.3	.....	7k	Fog	NE	Calm	0	0	Cloudy	
Cleveland, Ohio	29.27	743.4	29.96	761.0	71	21.7	85	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Clear	
Columbus, Ohio	29.16	740.7	29.92	760.0	77	25.0	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.04	712.2	29.65	753.1	70	21.1	90	Calm	0	0	.....	2c	0	Calm	.....	0.06	1.5	Fair	
Corsicana, Texas	29.51	749.5	29.95	760.7	77	25.0	91	S	7	3.1	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.31	744.5	29.90	759.4	80	26.7	82	SE	5	2.2	.....	4ks	Haze	W	Calm	0.06	1.5	Fair	
Denison, Texas	29.16	740.7	29.91	759.7	81	27.2	78	S	3	1.3	.....	2k	0	Calm	.....	Inap.	Inap.	Fair	
Denver, Colorado	24.70	627.4	29.92	760.0	70	21.1	44	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.30	744.2	29.94	760.5	75	23.9	81	Calm	0	0	.....	2ck	2s	W	W	0	0	Fair	
Dodge City, Kansas	27.34	694.4	29.50	749.3	75	23.9	77	S	12	5.4	.....	1c	0	Calm	.....	0	0	Clear	
Dubuque, Iowa	29.24	742 7	29.90	759.4	74	23.3	90	S	4	1.8	.....	.....	10ks	.....	S	1.46	37.1	Clearing	
Duluth, Minnesota	29.14	740.1	29.78	756.4	73	22 8	85	SW	2	0.9	.....	0	5s	.....	SW	0.45	11.4	Fair	
Eagle Pass, Texas	29.12	739.6	29.82	757.4	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.80	756.9	29.85	758.4	55	12.8	84	NW	12	5.4	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
El Paso, Texas	.....	.....	.....	.....	83	28.3	46	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.28	743.7	29.96	761.0	73	22.8	85	SE	1	0.4	.....	2cs	Haze	.....	.....	0	0	Clear	
Escanaba, Michigan	29.26	743.2	29.87	758.7	74	23.3	76	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Florence, Arizona	.....	.....	.....	.....	78	25.6	69	Calm	.....	.....	0	2cs	8ks	Calm	Calm	0	0	Threatening	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.22	640.6	30.18	766.6	69	20.6	60	NW	6	2.7	.....	10k	0	W	.....	Inap.	Inap.	Cloudy	
Fort Gibson, Indian Ter	29.40	746.7	29.90	759.4	82	27.8	83	SE	3	1.3	.....	5ck	0	SE	.....	0.22	5.6	Fair	
Fort Griffin, Texas	28.69	728.7	29.91	759.7	73	22 8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.74	730.0	29.79	756.7	79	26.1	78	S	2	0.9	.....	0	5s	.....	Calm	0	0	Fair	
Galveston, Texas	29.96	761.0	30.00	762.0	83	28.3	79	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.31	744.5	29.92	760.0	78	25.6	82	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Indianapolis, Indiana	29.18	741.2	29.90	759.4	80	26.7	78	NW	4	1.8	.....	5ck	5s	Calm	Calm	0	0	Cloudy	
Indianola, Texas	29.97	761.2	30.00	762.0	86	30.0	76	S	6	2.7	.....	1k	0	Calm	.....	0.03	0.8	Clear	
Jacksboro, Texas	28.82	732.0	29.90	759.4	80	26.7	82	S	2	0.9	.....	1c	0	S	.....	0	0	Clear	
Jacksonville, Florida	29.88	758.9	29.90	759.4	86	30.0	72	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.27	743.4	29.84	757.9	85	29.4	64	SE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Key West, Florida	29.90	759.4	29.94	760.5	85	29.4	76	N	7	3.1	.....	3c;ck	2ks	Calm;NE	N	0.31	7.9	Fair	
Kittyhawk, North Carolina	29.94	760.5	29.96	761.0	73	22.8	81	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29.09	738.8	29.94	760.5	78	25.6	73	NE	1	0.4	.....	1cs	Haze	N	Calm	0	0	Clear	
La Crosse, Wisconsin	29.16	740.7	29.85	758.2	77	25.0	77	S	4	1.8	.....	2c	0	S	.....	1.32	33.5	Clear	
La Mesilla, New Mexico	26.03	661 2	30.18	766.6	67	19.4	64	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.52	749.8	29.84	757.9	80	26.7	78	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.67	626.6	.....	.....	67	19.4	64	S	9	4.0	.....	5c	0	Calm	.....	0.11	2.8	Fair	
Leavenworth, Kansas	29.05	737.9	29.84	757.9	82	27.8	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.54	750.3	29.87	758.7	62	16.7	91	E	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.41	747.0	29.93	760.2	82	27.8	71	N	4	1.8	.....	5c	Sm'e	NW	Calm	0	0	Fair	
Lynchburg, Virginia	29.25	742.9	29.89	759.2	83	28.3	67	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.18	741.2	29.84	757.9	75	23.9	72	Calm	0	0	.....	8c	0	SW	.....	0.07	1.8	Cloudy	
Mason, Texas	28.34	719.8	30.01	762.2	79	26.1	73	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.65	753.1	29.95	760.7	86	30.0	75	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.22	742.2	29.90	759.4	80	26.7	82	SW	1	0.4	.....	2c	Haze	NW	.....	0	0	Fair	
Mobile, Alabama	29.93	760.2	29.97	761.2	81.5	27.5	76	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.72	754.9	29.94	760 5	83	28.3	74	W	1	0.4	.....	2k	0	NW	.....	0	0	Clear	
Morgantown, West Virginia	28.94	735.1	29.94	760.5	75	23.9	77	Calm	0	0	.....	5c	Haze	NW	Calm	0	0	Fair	
Mt. Washington, N. H.	23.79	604.3	30.15	765.8	42	5.6	75	N	24	10.7	.....	0	8ks	.....	N	0.02	0.5	Fair	
Nashville, Tennessee	29.41	747.8	29.94	760.5	81	27.2	78	NW	2	0.9	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.76	755.9	29.87	758.7	77	25.0	73	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	
New London, Connecticut	29.82	757.4	29.87	758.7	78	25.6	73	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Dense haze	
New Orleans, Louisiana	29.94	760.5	29.99	761.7	82	27.8	79	N	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Newport, Rhode Island	29.81	757.2	29.86	758.4	74	23.3	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.74	755.4	29.91	759.7	78	25.6	69	N	7	3.1	.....	6c;cs	Haze	W	.....	0	0	Fair	
Norfolk, Virginia	29.88	758.9	29.94	760.5	83	28.3	64	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	26.94	684.3	29.34	745.2	74	23.3	63	S	24	10.7	.....	5cs	0	W	.....	0	0	Fair	
Olympia, Washington Ter.	30.07	763.8	30.11	764.8	52	11.1	86	S	3	1.3	.....	0	4s	.....	S	0	0	Fair	
Omaha, Nebraska	28.74	730.0	29.78	755.1	84	28.9	75	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.68	753.9	29.98	761.5	69	20.6	75	NE	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Pembina, Dakota	28.90	734.0	29.68	753.9	68	20.0	95	SE	8	3.6	.....	0	5s	.....	S	0	0	Fair	
Philadelphia, Pennsylvania	29.87	758.7	29.92	760.0	78	25.6	65	NW	12	5.4	.....	5cs	Sm'e	NW	Calm	0	0	Fair	
Phœnix, Arizona	28.65	727.7	.....	.....	85	29.4	15	SE	.....	.....	.....	.....	10s	.....	Calm	0.14	3.6	Light rain	
Pike's Peak, Colorado	18.02	457.7	30.23	767.8	33	3.3	63	SW	16	7.2	.....	0	0	.....	.....	0.50	12.7	Clear	
Ploche, Nevada	24.05	610.9	29.82	757.4	64	17.8	62	SE	7	3.1	.....	5k	0	S	.....	0.10	2.5	Fair	
Pittsburg, Pennsylvania	29.16	740.7	29.94	760.5	70	21.1	95	NW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.30	744.2	29.92	760.0	77	25.0	77	S	4	1.8	.....	8ck	2ks	W	Calm	0	0	Cloudy	
Portland, Maine	29.86	758.4	29.91	759.7	64	17.8	68	NE	15	6.7	.....	Haze	Haze	.....	.....	0.09	2.3	Hazy	
Portland, Oregon	30.02	764.3	30.21	767.1	58	14.4	58	W	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Prescott, Arizona	25.82	639.4	30.18	766.6	65	18.3	78	Calm	.....	.....	0	2cs	5ks	Calm	Calm	0.03	0.8	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	29.94	760.6	29.95	760.7	83	28.3	83	N	8	3.6	.....	5k	0	NW	.....	0	0	Fair	
Red Bluff, California	29.43	747.5	29.70	755.0	76	24.4	27	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.38	746.2	29.96	761.0	73	22.8	67	NE	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Roseburg, Oregon	29.58	751.3	30.15	765.8	53	11.7	83	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.70	754.4	29 78	756.4	60	15.6	71	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.39	746.5	29.92	760.0	84	28.9	75	S	4	1.8	.....	2c	2s	Calm	Calm	0	0	Fair	
St. Marks, Florida	29.88	758.9	29.90	759.4	81	27.2	83	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.02	737.1	29.79	756.7	74	23.3	81	SE	10	4.5	.....	1k	0	W	....	0.50	12.7	Clear	
Salt Lake City, Utah	25.58	649.7	29.91	759.7	66	18.9	69	SE	2	0.9	.....	5c	0	W	.....	0.03	0.8	Fair	
San Antonio, Texas	29.27	743.4	29.82	757.4	79	26.1	87	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.85	758.2	29.92	760.0	66	18.9	84	SE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.34	745.2	29.98	761.5	76	24.4	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.86	758.4	29.89	759.2	77	25.0	77	NW	11	4.9	.....	8c	Haze	NW	Calm	0	0	Cloudy	
San Francisco, California	29.77	756.1	29.84	757.9	54	12.2	87	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23 34	592.8	29.88	758.9	64	17.8	53	N	18	8.0	.....	5ds	0	NW	.....	0	0	Fair	
Savannah, Georgia	29.83	757.7	29.93	760.0	80	26.7	91	NE	4	1.8	.....	0	5ks	.....	NE	0.10	2.5	Fair	
Shreveport, Louisiana	29.77	756.1	29.98	761.5	83	28.3	70	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.31	617.5	30.26	768.6	65	18.3	68	N	8	3.6	.....	2k	0	Calm	.....	0.04	1.0	Fair	
Smithville, North Carolina	29.95	760.7	29.98	761.5	80	26.7	66	E	4	1.8	.....	0	2ks	.....	NE	0	0	Fair	
Springfield, Massachusetts	29.69	754.1	29.81	757.2	78	25.6	73	S	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear	
Stockton, Texas	26.90	683.2	29.90	759.4	72	22.2	45	SE	10	4.5	.....	5k	0	S	.....	0.15	3.8	Fair	
Thatcher's Island, Mass	29.85	758.2	29.90	759.4	65	18.3	84	NE	16	7.2	.....	0	Haze	.....	Calm	0	0	Hazy	
Toledo, Ohio,	29.29	744.0	29.93	760.2	81	27.2	74	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Tucson, Arizona	27.44	697.0	29.99	761.7	76	24.4	76	Calm	0	0	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Tybee Island, Georgia	29.86	758.4	29.89	759.2	80	26.7	87	N	8	3.6	.....	5cs	5s	Calm	NE	0.09	2.3	Cloudy	
Umatilla, Oregon	29.69	754.1	.....	.....	60	15.6	49	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.75	755.6	29.99	761.7	84	28.9	75	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Moatana	24.20	614.7	29.68	753 9	62	16.7	61	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Visalia, California	29.45	748.0	29.81	757.2	66	18.9	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.83	757.7	29.94	760.5	79	26.1	70	N	7	3.1	.....	4	0	Calm	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	68	20.0	14	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.88	758.9	29.96	761.0	72	22.2	76	NE	3	1.3	.....	5k	0	NE	.....	0	0	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	56	13.3	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.80	756.9	29.85	758.2	73	22.8	85	NW	2	0.9	.....	Haze	Haze	.....	Calm	0	0	Hazy	
Yankton, Dakota	28.62	724.4	29.71	754.6	80	26.7	70	S	10	4.5	.....	2c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.55	750.6	29.70	754.4	86	30.0	46	SE	3	1.3	.....	0	8s	.....	SE	0	0	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.28	743.7	29.33	745.0	68.0	20.0	67	E	20	8.9	.....	3c	0	E	.....	0.70	17.8	Fair	J. Fortescue, W. Wood
Havana, Cuba, W. I	29.93	760.2	29.95	760.7	84	28.9	83	Calm	0	0	.....	4k	0	SE	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.09	764.3	30.10	764.6	80	26.7	87	Calm	0	0	.....	2k	0	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I	29.87	758.7	29.95	760.7	84	28.9	.....	E	22	9.8	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.09	764.9	30.09	764.3	78	25 6	86	E	.....	.....	2	5k	7ks	E	.....	0.220	5.59	½ cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herr.n
Medellin, Colombia, S. A	25.23	640.8	.....	.....	68.5	20.3	76	Calm	0	0	.....	4cs	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,883 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,102 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,775.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m; Salt Lake City, 4,862.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.8 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.79	756.7	55	12.8	53	11.7	96	SW	19	8.5	.....	.....	5	.....	SW	.....	.....	.....	.....	.....	
Navy Yard, Pensacola, Fla.	30.20	767.1	83	28.3	83	28.3	79	NE	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.99	761.7	74	23.3	65	18.3	73	NE	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.96*	761.0*	77	25.0	75	23.9	81	Calm	.....	.....	0	.....	8k;s	.....	W	0	0	.....	.....	Fair	
Alliance, Havre, France	30.12‡	765.0‡	.....	.....	67	19.4	95	N	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Ashuelot, Nagasaki, Japan	30.09	764.3	80	26.7	78	25.6	100	Calm	.....	.....	0	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Alaska, S. 1° 56′, W. 31° 17′	30.23	767.8	80	26.7	80	26.7	70	SE	.....	.....	6	.....	5	.....	SE	.....	.....	Mod'ate	SE	Pleasant	
Canonicus, New Orleans, La	30.04	763.0	56	13.3	81	27.2	91	W	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	Clear	
Colorado, New York, N. Y.	29.91‡	759.7‡	.....	.....	77	25.0	73	NW	4	1.8	.....	.....	5	.....	W	0	0	.....	.....	Hazy	
Constellation, N. 39° 54′, W. 73° 56′	29.98‡	761.5‡	.....	.....	77	25.0	77	N	.....	.....	2	.....	5	.....	N	.....	.....	Smooth	.....	F'air	
Constitution, Havre, France	30.23‡	767.8‡	.....	.....	65	18.3	78	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Despatch, Prince's Islands, Sea of Marmora	29.74‡	755.4‡	.....	.....	78	25.6	73	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Clear	
Enterprise, S. 5° 15′ 19″, W. 60° 32′ 27″	29.99‡	761.7‡	.....	.....	80	26.7	??	Calm	.....	.....	0	.....	2	.....	E	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	30.07	763.8	77	25.0	77	25.0	77	SSW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Gettysburg N. 31° 41′, E. 29° 40′	29.72‡	754.9‡	.....	.....	82	27.8	100	WNW	.....	.....	3	.....	2	.....	NW	0	0	Mod'ate	NW	Clear	
Guard, Rio de Janeiro, Brazil	30.45	773.4	72	22.2	70	21.1	85	NE	.....	.....	1	.....	8	.....	NE	.....	.....	.....	.....	Cloudy	
Hartford, Rio de Janeiro, Brazil	30.39	771.9	.....	.....	71	21.7	80	NNE	3.6	1.6	.....	.....	8	.....	.....	0.03	0.8	.....	.....	Cloudy	
Marion, Villefranche, France	29.96	761.0	76	24.4	75	23.9	86	ESE	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Michigan, Buffalo, N. Y.	29.51	749.5	72	22.2	74	23.3	86	SW	.....	.....	1	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Monocacy, Yokohama, Japan	29.96‡	761.0‡	.....	.....	78	25.6	82	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.12†	765.0†	.....	.....	82	27.8	79	ENE	4	1.8	.....	.....	5	.....	E	0.14	3.6	.....	.....	Fair	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	60	15.6	74	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Palos, Tientsin, China	29.85	758.2	80	26.7	77	25.0	91	E	.....	.....	2	.....	8	.....	E	.....	.....	.....	.....	Cloudy	
Pensacola, Mare Island, California	29.91	759.7	62	16.7	55	12.8	93	SSW	18	8.0	.....	.....	1?	.....	SSW	.....	.....	.....	.....	Cloudy	
Plymouth, New York, N. Y.	29.91‡	759.7‡	.....	.....	76	24.4	95	N	.....	.....	1	.....	5	.....	N	.....	.....	.....	.....	Misty	
Ranger, Hong-Kong, China	30.00*	762.0*	.....	.....	83	28.3	91	E	.....	.....	1	.....	3	.....	Calm	.....	.....	.....	.....	D. clouds	
Rio Bravo, Brownsville, Texas	29.95	760.7	80	26.7	80	26.7	96	SSE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Santee, Annapolis, Md.	29.92‡	760.0‡	.....	.....	78	25.6	82	N	.....	.....	2	.....	2	.....	N	0	0	.....	.....	Fair	
St. Louis, League Island, Pa	29.92	760.0	79	26.1	79	26.1	74	NNW	6	2.7	.....	.....	8	.....	NE	0	0	.....	.....	Fair	
Supply, Havre, France	30.29	769.4	65	18.3	66	18.9	79	N	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Hazy	
Swatara, Boston, Mass.	29.89‡	759.2‡	.....	.....	72	22.2	95	NE	.....	.....	3	.....	2	.....	N;E	.....	.....	.....	.....	Misty	
Trenton, Leghorn, Italy	29.91‡	759.7‡	.....	.....	78	25.6	86	W	.....	.....	2	.....	1	.....	W	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico	29.75	755.6	82	27.8	82	27.8	83	Calm	.....	.....	0	.....	8	.....	Calm	0	0	.....	.....	Fair	
Vandalia, Latakia, Syria	29.59‡	751.6‡	.....	.....	85	29.4	83	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	29.89‡	759.2‡	.....	.....	71	21.7	75	NE	10	4.5	.....	.....	8	.....	Calm	0.01	0.3	.....	.....	Cloudy	
Wyoming, N. 62° 45′, W. 43° 10′	29.82	757.4	62	16.7	59	15.0	76	N	.....	.....	1	.....	5	.....	N	.....	.....	Smooth	N	D. clouds	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

*It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, Hong-Kong, China.		29.90*	759.4*	86	30.0	100	S			1		3		S	3 hours	Light	S	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 12° 32′, W. 92° 48′		29.96†	761.0†	81	27.2	91	Calm			0		6		ESE	0	Small	SSW	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 34° 59′, W. 130° 08′		30.48‡	774.2‡	68	17.2	94	NNW			6		10		N	0	Large	NW	Cloudy	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the co-operation of ————, President; Williams, Blanchard & Co., Agents.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, N. 43° 18′, W. 47° 43′		29.91*	759.7*	58	14.4	70	SW			5		10		SW	8 hours	Slight	SW	Rain and fog	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 39° 55′ E. 150° 38′		29.69*	754.1*	68	20.0	??	N			5		k		N	Blank	Swell	NE	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 28° 14′, E. 123° 26′		29.66	753.4	69	20.6	100	S			6		10		WSW		3	WSW	Rain-squalls	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 40° 48′, W. 62° 0′		29.90	759.4	81.0	27.2	69	SSW			2-3		0			Blank		S	Bright	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 46° 58', W. 38° 44'		30.40*	772.1*	65	18.3	100	WSW			8		9		WSW		Light	WSW	Dense fog	Captain Sargent.
S. S. Ohio. N. 40° 56' W. 67° 47'		29.95	760.5	73	22.8	90	NE			2		2		Calm	0	Small	NNE	Clear	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.37†	771.4†	76	24.4	100	NW			4		3		NW	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 65° 22', W. 64° 53'		29.93*	760.2*	46.0	7.8	62	W			1	0	2ks		W	0			Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 16, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:38 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.02	762.5	70.5	21.4	82	NE			2		2			0	0	Fair	Dr. Olive.
Nemours			29.99	761.8	81.1	27.3	64	NNW			1		0			0	0	Clear	Michel.
Algiers			29.88	758.9	83.8	28.8	65	W			1		0			0	0	Clear	Tourillere.
La Calle			29.93	760 2	83.5	28.6	75	NE			1		4			0	0	Cloudy	Foufrede.
Tunis			29.95	760.8	96.3	35.7		E			4		0			0	0	Clear	Jacques.
Sfax			30.02	762.5	93.2	34.0		ENE			1		0			0	0	Clear	Gau.
Saida			30.02	762.5	72.9	22.7	84	N			3		4			0	0	Cloudy	Herbin.
Tebessa			30.05	763.2				SW			6		1			0	0	Very fair	Watrin.
Geriville			30.08	763.9	111.2	44.0		SE			3		4			0	0	Cloudy	Brugniaux.
Laghouat			30.03	762.8	103.3	39.6	17	W			4		0			0	0	Clear	Bertrand.
Biskra			30.01	762.2	109.9	43.3		E			3		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.62	749.9	30.05	763.3	75.2	24.0	55	SE			2		4			0.028	0.7		Prof. Ivan Stoz.
Cracow	29.20	741.6	29.94	760.4	63.0	17.2	64	W			3		10			0	0		Prof. Dr. Karlinski.
Eperies	29.04	737.5	29.89	759.1	68.4	20.2	55	NW			5		7cks		SE	0	0		Julius Mikolik.
Gratz	28.84	732.4	30.04	763.0	70.9	21.6	64	S			2		4			0	0		Andreas Rospini.
Hermannstadt	28.49	723.7	29.87	758.8	65.8	18.8	47	NNW			3		8			0	0	Threatening	Prof. Reissenberg
Kremsmünster	28.72	729.5	30.03	762.8	64.9	18.3	56	WNW			4		3			0	0		Prof. C. Wagner
Lemberg	28.80	731.4	29.76	755.8	61.0	16.1	86	NW			4		9			0.028	0.7		Dr. T. Stanecki.
Pola	29.37	746.6	29.98	761.4	81.1	27.3	43	E			3		2ks			0	0		I.R.Hydrographic Office
Szathmar	29.48	748.8	29.94	760.4	63.7	17.6	70	NW			3		8			0.240	6.1	Raining	Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.91	759.6	30.01	762.2	79.7	26.5	36	ENE			1		1			0	0	Almost clear	P. Busin.
Vienna	29.35	745.6	30.05	763.3	68.2	20.1	47	NW			3		6			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.78	731.1	30.26	768.6	66.7	19.3	46	N			1		0			0	0		Prof. M. Passau.
Brussels	30.08	764.1	30.28	769.1	68.5	20.3	50	NW			1		1		N	0	0		Royal Observatory
Furnes	30.32	770.0	30.34	770.6	70 3	21.3	59	WNW			3		3			0	0		M. E. de Cae.
Maeseyck	30.17	766.2	30.29	769.4	66.4	19.1	74	NW			2		2			Blank	Blank		M. Pierrot.

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

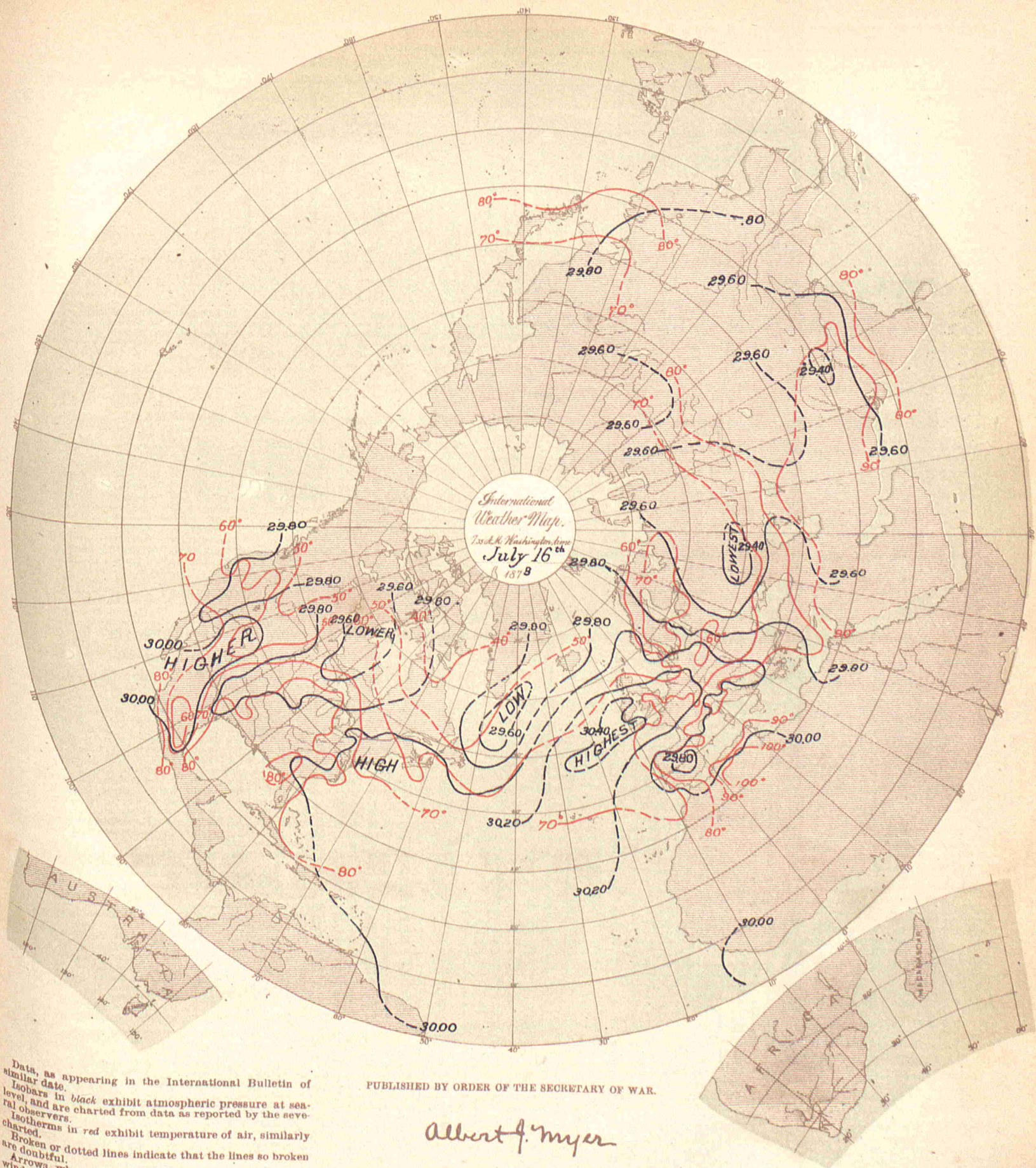
Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.05	763.3	30.15	765.8	66.0	18.9	.....	W	2	0.9	.....	.....	9	.....	.....	0.020	0.51	Overcast	W. Boswell.
Ardrossan	30.23	767.8	30.25	768.3	62	16.7	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	30.43	772.9	68.0	20.0	.....	W	5	2.2	.....	.....	9	.....	.....	.....	.....	Overcast	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.32	770.1	63.6	17.2	.....	WNW	14	6.3	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.36	771.1	67.7	19.8	.....	WSW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.87	758.7	30.26	768.6	71.6	22.0	.....	NW	.....	.....	3	.....	6	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	84.0	28.9	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.27	768.8	75.0	23.9	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	H. Todd. [H.C.
Cardington	.....	.....	30.31	769.9	74.0	23.3	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	30.15	765.8	30.28	769.1	75.2	24.0	.....	NE	.....	.....	3	.....	6	.....	.....	.....	.....	Hazy	Lt. W. G. Morris, R. E.
Dartmoor	28.82	732.0	30.24	768.1	70.0	21.1	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	30.26	768.6	30.29	769.4	67	19.4	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	30.28	769.1	30.30	769.6	67	19.4	.....	S	.....	.....	1	.....	2	.....	.....	.....	.....	Hazy	J. Costello.
Eccles, (near Manchester)	.....	.....	30.27	768.8	69.8	21.0	.....	NW	8.8	3.9	.....	.....	6	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Falmouth, Observatory	30.12	765.0	30.35	770.9	67.4	19.7	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.92	760.0	62.4	16.9	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.77	756.1	30.00	762.0	84.0	28.9	.....	NE	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.31	769.9	63	17.2	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.88	758.9	29.93	760.2	76.1	24.5	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.04	763.0	30.24	768.1	65.0	18.3	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.26	768.6	30.27	768.8	64	17.8	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	30.11	764.8	30.28	769.1	73.6	23.1	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	30.08	764.0	30.29	769.4	68	20.0	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.40	772.1	69	20.6	.....	E	.....	.....	4	.....	3c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.29	769.4	30.34	770.6	66	18.9	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	30.04	763.0	30.32	770.1	70.1	21.2	.....	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	J. Fisher.
Kew, Observatory	.....	.....	30.29	769.4	71.1	21.7	.....	NNW	7	3.1	.....	.....	5	.....	.....	.....	.....	D. clouds	The Staff.
Kingstown	30.32	770.1	30.35	770.9	66	18.9	.....	WNW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	30.28	769.1	67.2	19.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.89	759.2	29.96	761.0	86.2	30.1	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Sgt. Hewitt, A. H. C.
Nairn	30.04	763.0	30.13	765.3	68	20.0	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	½ cloud C.	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.88	758.9	74.0	23.3	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	C. S. Duncombe.
Nottingham, Observatory	30.09	764.3	30.28	769.1	74.7	23.7	.....	W	.....	.....	1	.....	10k	.....	W	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.78	756.4	30.29	769.4	66.4	19.1	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.31	769.9	68	20.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	30.25	768.3	30.32	770.1	69.4	20.8	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	30.32	770.1	30.36	771.1	71	21.7	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Fine	W. Kennedy.
Saint Ann's Head	30.18	766.6	30.34	770.6	64	17.8	.....	NW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.10	764.5	57.7	14.3	.....	SW	20	8.9	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.88	758.9	75.0	23.9	.....	N	.....	.....	1	.....	6	.....	.....	.....	.....	Clouds	Sergt. W. H. Lyne.
Sheffield	30.01	762.2	30.28	769.1	71.1	21.7	.....	W	.....	.....	2	.....	8	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.24	768.1	30.26	768.6	68.5	20 3	70	SW	.....	.....	2	.....	7	.....	.....	0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.89	759.2	30.29	769.4	66.9	19.4	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	30.06	763.5	30.09	764.3	63	17.2	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	30.09	764.3	30.30	769.6	70.9	21.6	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.10	764.5	62	16.7	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	30.34	770.6	75	23.9	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	30.40	772.1	65.9	18.8	.....	SW	4	1.8	.....	.....	5	.....	.....	.....	.....	Hazy	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	46.0	7.8	86	NW	.....	.....	2	.....	10k	.....	.....	0	0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	71.9	22.2	61	SE	19.0	8.5	.....	1	2	.....	SE	0.04	1.0	Fine	C. Meldrum.
Melbourne, Observatory	29.89	756.9	29.89	759.2	51.3	10.7	72	NNE	20	8.9	.....	.....	6	.....	W	0.03	0.8	Boisterous	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 51° 0′, W. 23° 30′	.....	.....	30.34	770.6	63	17.2	.....	SW	.....	.....	4	.....	10	.....	.....	5*	WSW	Showery	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 45° 35′ W. 53° 0′	.....	.....	29.94	760.5	55	12.8	.....	WNW	.....	.....	4	.....	7	.....	.....	4	.....	D. clouds	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Peruvian, N. 51°, 40′ W. 55° 40′	.....	.....	29.80	756.9	47	8.3	.....	N	.....	.....	5	.....	10	.....	.....	4	N	Rain & hail	Capt. W. H. Smith, [R. R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, Arsuk Fiord, Greenland	.....	.....	29.84	757.9	42	5.6	.....	W	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Capt. Alex. Simpson.
Barque Virginia, N. 48° 50′, W. 26° 30′	.....	.....	30.41	772.4	62	16.7	.....	SW	.....	.....	4	.....	9	.....	.....	2	SW	D. clouds	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.28	667.5			64.0	17.8	92	NE			1		2s			0.1	3.		Mr. Ansart. Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.89	759.1	29.93	760.3	70.7	21.5	66	NW			2		5						
Farõe	30.05	763.3	30.07	763.8	60.6	15.9	71	NW			6		5						
Godthaab, (Greenland)	29.86	758.5	29.91	759.6															
Stykkisholm, (Iceland)	29.59	751.5	29.63	752.6	51.8	11.0	82	SW			8		8						
Thorshavn, (Farõe)	29.91	759.7	29.95	760.6	54.1	12.3	88	W			2		10					Raining	
Vestervig	29.78	756.4	29.95	760.7	59.4	15.2	83	W			6		0					Rain & fog	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.75	755.7	30.30	769.7	68.0	20	44	NE			2		2		SE	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.18	766.5	30.29	769.3	73.4	23.0	76	NW			2		2		NW	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.93	760.1	30.00	762.1	83.7	28.7	40	N			0		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.71	754.5	30.26	768.5	71.1	21.7	44	ENE			2		5n		E	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	30.02	762.6	30.30	769.7	70.7	21.5	58	ENE			2		5		NE	0	0	Cloudy	Normal School.
Besançon	29.36	745.7	30.23	767.7	71.6	22	53	N			6		0			0	0	Clear	Normal School.
Bourg-en-Bresse	29.38	745.7	30.30	769.5	73.4	23	62	W			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.61	752.0	30.21	767.2	73.4	23	67				6					0	0		A. Wagner, Director.
Brest, Naval Observatory	29.97	761.3	30.21	767.4	70.5	21.4	50	NE			4		1		NE	0	0		The Staff.
Carcassonne, Normal School	29.56	750.9	29.95	760.8	69.6	32	43	W			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.66	753.3	30.20	767.1	73.4	23	84	E			4		7		W	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.95	760.7	30.26	768.5	74.5	23.6	43	N			2		0			0	0	Clear	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.85	732.7	30.15	765.8	74.5	23.6	39	NE			1		0			0	0	Clear	Allnard, Director.
Commercy, Normal School	29.41	747.0	30.27	768.9	66.6	19.2	63	ENE			2		0			0	0	Clear	Dr. Coulet, Director.
Commune de Grénasque*	28.90	734.1	30.04	763.1	95.9	35.5	19	W			2		1		SW	0	0		M. King.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	30.01	762.2	30.21	767.4	77.2	25.1	44	ENE			8		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.94	760.5	30.24	768.1	73.9	23.3	49	NNE			4		2		NE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.30	744.2	30.20	767.1	71.4	21.9	39	NE			3		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.14	765.6	30.24	768.1	73.8	23.2	68	ENE			2		2		N	0	0	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.51	749.5	30.18	766.5	71.8	22.1	69	NE			6		0			0	0	Clear	M. Galzin, Director.
Mirecourt	29.19	741.3	30.21	767.4	64.9	18.3	60	NNE			2		1		SSW	0	0	Clear	Normal School
Nismes, Normal School	29.80	757.0	30.07	763.7	87.1	30.6	28	N			4		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.87	758.8	30.25	768.4	75.2	24	39	E			2		2		E	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	30.04	762.9	30.27	768.8	72.3	22.4	48	NE			1		8		NE	0	0	Very cloudy	National Observatory.
Privas	29.66	738.1	30.08	764.1	76.3	24.6	44	N			2		1		N	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.10	764.4	30.13	765.2	78.4	25.8	24	ENE			6		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.21	767.4	30.30	769.5	75.2	24.0	48	NNE			1		0			0	0	Clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.97	735.9	30.02	762.6	78.8	26	84	SW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.42	747.2	30.11	764.8	71.6	22	67	N			4		0			0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.88	758.9	80.6	27							0			0	0		L'Abbé Marchès.
Lyons																			L. Jays.
Marseilles, Observatory			29.94	760.4	90.1	32.3	36	WSW			2		0			0	0		The Staff.
Mont-Louis	25.05	636.2	30.36	771.2	71.6	22.0	56	ESE	3.7	1.67			3		SE	0	0		M. Cave.
Nice			30.00	762.0	75.9	24.4	81	SE			1		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.99	761.7	30.26	768.7	71.4	21.9	52	NE			3		5		NE	0	0		Marié Davy, Director
Perpignan			30.04	763.0	81.7	27.6	45	SE	7.4	3.33			5		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.74	577.7			64.8	18.2		NW			4-6		9			0	0	Fair	Gen'l de Nansouty.
Saint Maur, (near Paris)	30.11	764.8	30.28	769.0	72.0	22.7	52	NE			1		2		NE	0	0	Clear	E. Renou.
Toulouse, Observatory	29.34	745.2	30.07	763.7	85.6	29.8	40	NE			2		2			0	0		The Staff.
Tours	30.01	762.3	30.21	767.3	77.0	25.0	47	ESE			4		1		E	0	0		C. Marquet.
Versailles, (near Paris)			30.28	769.1	73.0	22.8	37	E			2		4			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.79	756.6	29.82	757.3	77.4	25.2	91	N	0.9	0.4			10n			0.154	3.9	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grénasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,343 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.24	742.6	30.09	764.3	63.5	17.5	53	WNW			4		8	W		0	0		Prof. Dr. Hoh.
Berlin	29.93	760.2	30.10	764.5	64.4	18.0	63	SW			1		10			0	0		Prof. Arndt.
Breslau	29.56	750.7	30.09	764.2	59.0	15.0	70	WNW			4		10			Inap.	Inap.		Royal University Obs'y
Carlsruhe	29.79	756.7	30.21	767.4	69.4	20.8	58	W			1		1			0	0		Albert Senz.
Cassel	29.63	752.6	30.24	768.1	61.2	16.2	62	NW			4		7	WNW		0	0		Dr. H. Möhl.
Crefeld	30.09	764.3	30.25	768.4	68.0	20.0	51	NW			2		6k			0	0		Director Lose.
Emden	30.19	766.9	30.23	767.9	58.3	14.6	59	NNW			5		9			0	0		Prof. Prestel.
Frankfort on the Main	29.91	759.7	30.27	768.8	68.0	20		NW			2		5			0	0		Physical Society.
Friedrichshafen	28.80	731.6	30.21	767.4	66.2	19.0	62	SW					4	WSW		0	0		M. Wilhelm.
Hamburg	30.07	763.8	30.14	765.6	59.0	15.0	88	NW			6		9ks			0.028	0.7		Captain F. Hegemann.
Kiel	30.06	763.4	30.07	763.8	65.1	18.4	68	WNW					5			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.69	754.2	29.77	756.2	69.1	20.6	67	NW			3		6			0.012	0.3		Prof. E Luther.
Köslin			29.93	760.2	62.2	16.8		NW			5		4			0	0		H. Müller.
Leipsic, Observatory	29.77	756.1	30.19	766.8	59.7	15.4	59	NW			3		10	WNW		0.051	1.3		Prof. Bruhns.
Memel, Naval School	29.71	754.6	29.76	755.8	65.5	18.6	74	NW			4		1c						Reinbrecht and Skalweit.
Neufahrwasser	29.86	758.5	29.88	758.9	65.1	18.4	79	NW			5		10			0.047	1.2		A. Lothes.
Posen	29.76	755.9	30.04	763.1	61.7	16.5	65	NW			8		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.71	754.7	30.25	768.3	70.2	21.2	48	NE			2		1	NW		0	0		Astronomical Observatory.
Stuttgart	29.30	744.3	30.22	767.6	68.0	20.0	47	NW			1		1	W		0	0		Prof. Schoder.
Treves, (Trier)	29.61	752.0	30.13	765.3	70.7	21.5	39	NW			3		0			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.71	729.1	30.17	766.3	63.1	17.3	52	WNW	4	2			4ck		WNW	0	0		Dr. Von Bebber.
Wustrow, Naval School	30.01	762.3	30.05	763.3	62.8	17.1	76	W			4		3			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.55	750.5	29.92	759.9	88.2	31.2		E			3.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.53	750.0	29.58	751.3	88.9	31.6	67	SW	29?	13.0?			4		SW	0	0	D. clouds	
Deesa	29.15	740.4	29.61	752.0	97.1	36.2	51	Calm					7	S		0	0	Misty	
Bombay	29.59	751.7	29.63	752.6	85.1	29.5	81	WNW	6	2.7			10	NW	W	0.05	1.3	Overcast	
Poona	27.70	703.5	29.69	754.1	78.9	26.1	65	N					10		N	0.92	23.4	Showery	
Lahore	28.80	731.6	29.52	749.7	97.2	36.2	42	NW	1.0	0.4			0			0	0	Threatening	
Belgaum	27.16	689.8	29.68	753.8	76.8	24.9	89	W	7	3.1			9		W	0.20	5.1	Showery	
Bangalore																			
Roorkee	28.52	724.4	29.38	746.2	94.8	34.9	45	W	1.8	0.8			0			0	0		
Agra	28.98	736.0	29.52	749.7	98.1	36.7	43	W								0	0		
Trichinopoly																			
Nagpur	28.62	726.9	29.66	753.3	78.1	25.6	98	Calm	0.9	0.4			10		E	1.87	47.5	Overcast	
Madras																			
Lucknow	29.16	740.6	29.62	749.7	89.7	32.1	68	Calm	1.0	0.4			10			0	0	Overcast	
Allahabad	29.24	742.7	29.54	750.3	95.4	35.2	54	NW	1.9	0.8			9	SW		0	0	D. clouds	
Patna	29.37	746.0	29.55	750.5	88.4	31.3	79	E	0.7	0.3			6	E	SE	0.35	8.9	D. clouds	
Hazaribagh	27.58	700.6	29.56	750.8	82.8	28.2	74	Calm	5.2	2.3			10			0.04	1.0	Thunder-storm	
Cuttack	29.54	750.2	29.62	752.3	86.9	30.5	74	S	2.8	1.2			4			0.18	4.6	D. clouds	
Calcutta (Alipore)	29.60	751.8	29.62	752.4	85.2	29.6	76	SW	6.0	2.7			9	S		0	0	D. clouds	
Goalpara	29.25	743.0	29.64	752.8	81.3	27.4	89	Calm	2.6	1.2			9		SW	0	0	D. clouds	
Chittagong	29.61	752.1	29.70	754.4	83.9	28.8	81	S	5.2	2.3			10			0	0	Overcast	
Sibsagar	29.30	744.1	29.62	752.4	85.9	29.9	79	Calm	2.9	1.3			6			0.09	2.3	D. clouds	
Rangoon																			
Jubbulpore	28.26	717.7	29.60	751.9	83.2	28.4	75	SSW	2.5	1.1			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.63	752.7	30.03	762.7	78.6	25.9	42	SE	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.91	759.8	30.02	762.5	79.0	26.1	41	ESE	9.5	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.82	757.4	30.01	762.2	80.1	26.7	45	SE	3.8	1.7	.....	.....	1	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.72	729.4	29.98	761.5	80.6	27.0	56	SE	.....	.....	2	.....	3	.....	.....	0.827	21.0	.....	Prof. Trionfini Carlo.
Milan	29.48	748.7	29.97	761.2	87.6	30.9	.....	E	.....	.....	1	.....	2	E	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.10	739.1	29.96	760.9	84.4	29.1	49	E	3.1	1.4	.....	.....	6	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.12	714.2	29.94	760.4	80.4	26.9	53	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.78	756.4	30.00	761.9	75.0	23.9	70	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.82	757.5	29.98	761.6	78.3	25.7	65	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.69	754.0	29.98	761.6	80.6	27.0	60	NNE	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.72	754.8	29.97	761.1	87.8	31.0	41	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.88	758.9	29.96	761.0	77.2	25.1	73	WNW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.94	760.5	29.99	761.7	77.9	25.5	66	NE	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.48	723.5	29.98	761.4	74.5	23.6	67	NE	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.85	758.3	29.96	761.0	86.0	30.0	53	SSW	.....	.....	4	.....	2	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.79	756.6	29.96	760.9	87.1	30.6	42	W	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.78	756.4	29.97	761.3	85.5	29.7	54	S	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	85.6	29.8	45	E	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.73	755.2	29.92	759.9	82.0	27.8	67	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.08	738.7	29.92	759.9	94.6	34.8	50	SW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.73	755.1	29.97	761.3	84.4	29.1	33	E	4.1	2.2	.....	.....	6	.....	.....	0	0	.....	Prof. G. Caccatore.
Syracuse	29.80	757.0	29.88	758.9	83.5	28.6	63	SE	.....	.....	1	.....	6	WNW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.44	747.8	30.00	761.9	83.3	28.5	62	SSW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.73	755.1	29.92	759.9	79.7	26.5	87	SSW	18.4	8.2	.....	.....	10ks;ck	.....	SW	.....	.....	Cloudy	
Tokei (Yeddo) Observatory	29.91	759.7	29.95	761.5	77.0	25.0	88	S	4.0	1.8	.....	.....	10ck;n;s]	.....	.....	.....	.....	Light rain	I. Arai, Director.
Tokei (Yeddo) University	29.86	758.4	29.96	760.9	77.7	25.4	95	S	4.6	2.0	.....	8cs	2ks	.....	SW	0	0	Cloudy	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	85.6	18.7	93	N	0.0	0.4	.....	0	1s	.....	.....	0.09	2.2	Clear	L. Castillo, A. E.
Guadalajara	26.09	687.4	30.06	763.5	68.1	14.5	87	NW	0.9	0.4	.....	0	4	.....	NE	0.51	13.0	Clear	Prof. L. Perez.
Guanajuato	23.73	604.3	29.88	759.0	63.1	17.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Prof. V. Fernandez
Leon	.....	.....	.....	.....	61.3	16.8	87	Calm	0	0	.....	0	0	.....	.....	0 39	10.0	Fair	Prof. M. Leal.
Mexico	23.14	587.8	30.13	765.4	57.7	14.3	80	Calm	0	0	.....	0	1k	.....	.....	0.10	2.6	Fair	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.1	16.7	89	Calm	0	0	.....	1c	0	E	.....	0.06	1.4	Fair	M. V. de Leon, M. E.
Puebla	23.38	593.6	30.04	762.9	56.1	13.4	87	E	3.8	1.7	.....	0	1s	.....	.....	0	0	Fair	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.24	615.1	30.10	764.5	58.0	14.4	51	E	0.9	0.4	.....	0	10	.....	E	0	0	Foggy	G. Barroeta, M. D.
Vera-Cruz	29.94	760.5	29.97	761.2	70.7	26.5	84	W	.....	.....	.....	1c	2k	.....	.....	0	0	Blue sky	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	83	E	1.8	0.8	.....	4	8	SW	NE	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.32	592.3	30.06	763.0	62.7	11.5	65	NE	4.5	2.0	.....	0	1	.....	.....	0	0	Clear	Prof. P. Spina. [M.M.D.D.
Morelia	24.15	613 5	.....	.....	66.2	19.0	52	SW	.....	.....	.....	3c	0	W	.....	0.02	0.6	Clear	M. Tena, F.L. Paramo,
Durango	24.32	617.8	30.15	765.7	66 2	19.0	90	SW	0.9	0.4	.....	3c	0	.....	.....	0.08	2.0	Clear	M. V. de Leon, C. E.
Colima	28.41	721.6	30.04	762.9	78.8	26.0	80	.....	.....	.....	.....	.....	.....	.....	.....	0	0	⅝ clouded	R. Banda, C. E.
San Juan E. Mishapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,771 m., or 5,809 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.32	770.0	30.32	770.0	66.6	19.2	.....	WNW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.18	766.6	30.24	768.0	60.3	15.7	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Helder	30.26	768.6	30.26	768 6	58.5	14.7	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.26	768.6	30.26	768.6	67.5	19 7	63	WNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.23	767.9	30.28	769.1	66.0	18.9	67	NNW	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.00	762.1	30.06	763.5	58.6	14.8	60	WNW	5.6	2.5	.....	.....	4	.....	.....	0.087	2.2	.....	.....
Brönö	29.89	759.2	29.93	760.2	59.4	15.2	81	N	4	2	.....	.....	3	.....	.....	0	0	.....	.....
Christiania	29.74	755.3	29.87	758.8	73.8	23.2	45	SW	7	3	.....	.....	1	.....	.....	0.122	3.1	.....	.....
Tromsö	29.78	756 5	29.83	757.6	54.3	12.4	79	Calm	0	0	.....	.....	10	.....	.....	0.063	1.6	.....	.....

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.11	764.9	30.30	769.7	70.5	21.4	72	E	9.8	4.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.93	734.9	29.91	759.7	81.5	27.5	35	S	9.4	4.2	.....	.....	7	SSW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.00	762.0	30.09	764.2	74.1	23.4	67	SE	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.60	751.7	29.95	760.6	68.4	20.2	74	SW	18.6	8.3	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.21	767.4	30.28	769.2	72.3	22.4	63	S	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza. St. Paul De Loanda	.....	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 55′, E. 32° 37′	.....	.....	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 23° 34′	.....	.....	Overcast.....	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	
.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.43	747.6	29.85	758.2	58.6	14.8	96	WNW	16	7	.....	.....	10n	.....	.....	.....	.....	Raining.....	Astronomical Obs.
Wilna	29.25	742.9	29.65	753.1	67.3	19.6	80	NW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.41	747.1	29.65	753.0	72.3	22.4	60	N	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.60	751.8	29.61	752 2	70.2	21.2	60	N	9	4	.....	.....	1ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9k;ks;n	.....	.....	.....	.....	Raining.....	Ch. Forsten.
Kieff	28.85	732.8	29.46	748.3	62.8	17.1	88	NW	9	4	.....	.....	5kn	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.61	752.0	29.68	753.8	69.1	20.6	65	WNW	18	8	.....	.....	6	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.65	753.1	29.67	753.6	75.4	24.1	74	WNW	11	5	.....	.....	10s	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.91	734.4	29.44	747.7	66.0	18.9	86	S	9	4	.....	.....	9n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Lugan	29.16	740.7	29.36	745.7	68.5	20.3	70	WSW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.61	752.2	29.63	752.7	73.0	22.8	39	NNE	4	2	.....	.....	5kn	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.36	720.4	29.70	754.4	79.7	26.5	43	N	13	6	.....	.....	10n	.....	.....	Blank	Blank	Heavy clouds...	Physical Observatory
Astrakhan	29.68	753.8	29.60	751.7	72.5	22.5	53	SW	4	2	.....	.....	.....	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.17	740.9	29.43	747.4	65.8	18.8	89	W	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.51	724.2	29.42	747.2	65.8	18.8	72	SSW	13	6	.....	.....	8ck;n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.36	745.7	29.58	751.2	93.0	33.9	39	NNW	7	3	.....	.....	1ck	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.17	715.4	29.74	755.5	87.8	31.0	49	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.26	743.3	29.74	755.5	86.4	30.2	32	N	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.60	751.9	29.88	759.0	71.4	21.9	73	SW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.51	749.6	29.65	753.2	73.2	22.9	87	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 402 meters, or 1,341.5 feet; Tashkend, 494.27 m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.4	29.96	761.0	77.5	25.3	58	E	4.7	2.11	.....	6c	2	.....	.....	0	0	Misty.....	Antonio Rave, Directora
Bilbao, Met. Obs'y	29.95	760.8	30.01	762.2	77.0	25.0	74	NW	2.8	1.26	.....	.....	10	.....	.....	0.008	0.2	Covered.....	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.05	687.1	.....	.....	79.3	26.3	57	NE	12.3	5.49	.....	.....	4	.....	.....	0.071	1.8	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.72	704.2	29.79	756.7	91.6	33.1	34	S	18.6	8.33	.....	0	2	.....	.....	0	0	Partly cl'dy	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759 6	89.1	31.7	57	SE	4.3	1.94	.....	1	3	SW	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.04	737.7	29.89	759.1	86.4	30.2	78	NE	26.1	11.67	.....	.....	9	.....	.....	0.079	2.0	Almost cov..	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.86	758.4	29.92	760.0	84.2	29.0	75	Calm	0	0	.....	8ck	1k	N	.....	0	0	Cloudy.....	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.90	759.5	30.00	762.0	73.4	23.0	66	WSW	11.5	5.1	.....	0	5	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.1	30.01	762.3	83.5	28.6	80	SE	11.2	5.00	.....	2cs	3k	SE	SE	0.059	1.50	Clear.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'per 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.73	755.1	29.77	756.1	70.2	21.2	.....	.....	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.76	755.8	29.78	756.4	71.2	21.8	51	S	.....	.....	2	.....	2	.....	.....	0	0	.....	
Hernosand	29.74	755.4	29.79	756.7	73.4	23.0	42	N	.....	.....	2	.....	2	.....	.....	0	0	.....	
Stockholm	29.64	752.8	29.82	757.3	70.2	21.2	45	NNW	.....	.....	6	.....	3	.....	.....	0.094	2.4	.....	
Wisby	29.74	755.5	29.80	757.0	63.7	17.6	78	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.73	755.1	29.80	757.0	70.5	21.4	40	NNW	12.8	5.7	.....	.....	1	.....	NNE	0	0	.....	Dr. Hildebrandsson.

Note.—The origin .ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.78	731.0	30.16	766.1	70.0	21.1	59	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.60	726.5	30.19	766.7	71.1	21.7	47	E	.....	.....	.....	.....	1	.....	.....	0	0	Clear	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +3.4 mm.; Thermometer, —1.5 cent.; Relative Humidity, +6 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.2	76.6	24.8	38	N	7	3.0	.....	.....	5	.....	WNW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.5	83.6	28.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.58	751.3	29.69	754.1	93 0	33.9	60	SW	.....	.....	2	.....	1s	.....	SW	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29 91	759.7	29.98	761.6	64.9	18.3	72	Calm	0	0	.....	3c	0	NW	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	29 72	754.9	30.02	762.5	67	19.4	.....	NE	1	0.4	.....	.....	8s	.....	E	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29 97	761 2	30.03	762.7	67	18.9	84	SW	4	1.8	.....	2k	8ks	SW	SW	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	30.01	762 2	30.05	763.3	61	16.1	69	W	8	3.6	.....	.....	8s	.....	W	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.81	757.2	30.00	762.0	61.2	16.2	77	NE	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.84	757.9	30.01	762 2	60.3	15.7	88	W	.....	.....	2	.....	.....	.....	.....	0	0	Cloudy	James Smith, M. A.
Esquimault, B. C	29.65	753.1	29.70	754.4	53.2	11.8	100	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Fine...	H. A. Johnson.
*Father Point, Quebec	29.96	761.0	29.98	761.5	54	12.2	84	SW	13	5.8	.....	0	Haze	.....	W	0.01	0.3	Overcast.....	W. H. Bevis.
Fredericton, N. B	30.05	763 3	30.11	764.8	58.0	14.4	87	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	28 8-	733.0	29.04	752.8	67	19.4	87	W	14	6.3	.....	0	0	.....	.....	0.915	23.24	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.94	735.1	29.98	761.5	74	23.3	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	James Grant.
*Halifax, N. S	29.55	750.7	30.08	764.0	57	13.9	83	NW	4	1.8	.....	.....	10n	.....	NW	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.87	753.6	30.03	762.7	71.6	21.9	85	NE	.....	.....	2	4ck	0	NE	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	29 80	756.9	29.83	757.7	54	12.2	74	NW	.....	.....	5	10	2ks	NW	.....	0	0	Cloudy.....	E. Weedon.
*Kingston, Ontario	29 74	754.6	30.03	762.7	60	20.6	77	S	4	1.8	.....	2c	Sm'e	Calm	S	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.99	761.7	30.02	762.5	67.5	19.7	.....	SW	5	2.2	.....	5ck	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.83	757.7	30.03	762.7	62	16.7	79	E	8	3.6	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy.....	C. H. McLeod, C. E
*Parry Sound, Ontario	29.20	744.0	29.95	760.7	74	23.3	88	S	5	2.2	.....	2ck	2s	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.28	743.7	30.00	762.0	70.7	21.5	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Hazy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.34	745.2	30.00	762.0	69	20.6	95	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.01	762.2	30.05	763.3	61.2	16.2	.....	N	2	0.9	.....	.....	.....	.....	.....	0	0	Fine....	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.00	762.0	72	22.2	92	N	1	0.4	.....	2c	0	N	.....	0	0	Clear.	M. Payne.
*Quebec, Quebec	29.72	754.9	30.04	763.0	62	16.7	72	E	.....	.....	1	Sm'e	Sm'e	.....	.....	0	0	D. smoke.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.52	749.8	29.97	761.2	65	18.8	89	E	3	1.3	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy.....	W. H. McIntyre.
St. Andrews, N. B	30.07	763.8	30.12	765.0	57	13.9	87	Calm	0	0	.....	5k	.....	NW	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	29.97	761.2	30.14	765.5	58	14.4	87	SE	6	2.7	.....	7ck	0	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.27	743.4	29.95	760 7	78	25.6	69	S	10	4.5	.....	8k	0	SW	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.21	741.9	29.95	760.7	75	23.9	72	SE	1	0.4	.....	5k	Haze	NW	.....	0	0	Hazy.....	R. J. Cole.
Stratford, Ontario	28.77	730.7	29.99	761.7	69.5	20 8	87	Calm	0	0	.....	2cs	0	.....	.....	0	0	Clear.	C. J. MacGregor, M. A.
*Sydney, C. B	30.01	762.2	30.04	763.0	63	17.2	63	W	4	1.8	.....	8c	0	W	.....	0.06	1.5	Fair.	T. C. Hill.
*Toronto, Ontario	29.04	752.8	30.01	762.2	72	22.2	83	NE	1	0.4	.....	8ck	Haze	W	Calm	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	57.0	13.9	87	W	.....	.....	.....	4c	5s	.....	.....	0.06	1.5	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cloudy.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10	Clouds. Amount. Up'er 0 - 10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.86	758.4	30.08	764.0	67	19.4	74	S	8	3.6			10s		S	0	0	Cloudy	
Alpena, Michigan	29.21	741.9	29.82	757.4	76	24.4	72	Calm	0	0		5k	5s	W	Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.07	763.8	30.09	764.3	68	20.0	94	NE	8	3.6			10s		Calm	0	0	Threatening	
Augusta, Georgia	29.85	758.2	30.03	762.7	83	28.3	64	SW	2	0.9		2c	Haze	Calm		0	0	Clear	
Baltimore, Maryland	30.02	762.5	30.07	763.8	76	24.4	82	NE	8	3.6		5k	5ks	NE	NE	0	0	Cloudy	
Barnegat, New Jersey	30.08	764.0	30.10	764.5	67	19.4	84	E	11	4.9			10s		E	0	0	Cloudy	
Bismarck, Dakota	28.04	712.2	29.90	759.4	61	16.1	77	N	12	5.4		6cs	0	NW		0.04	1.0	Fair	
Boise City, Idaho	26.88	682.7	29.76	755.9	60	15.6	54	S	4	1.8		2k	5s	Calm	SW	0	0	Fair	
Boston, Massachusetts	29.98	761.5	30.13	765.3	64.5	18.1	71	W	4	1.8		8c;k	Haze	N;S	Calm	0	0	Fair	
Brackettville, Texas	28.73	729.7	29.71	754.6	80	26.7	78	SE	4	1.8		0	0			0	0	Clear	
Breckenridge, Minnesota	28.73	729.7	29.67	753.6	70	21.1	95	W	8	3.6			10ks		NW	0.03	0.8	Cloudy	
Brownsville, Texas	29.83	757.7	29.89	759.2	82	27.8	83	SE	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.31	744.5	29.97	761.2	75	23.9	64	S	2	0.9		Haze	0	Calm		0	0	Clear	
Burkes, Arizona																			
Burlington, Vermont	29.82	757.4	30.07	763.8	66	18.9	68	SW	4	1.8		5ck	Haze	NW		0	0	Fair	
Cairo, Illinois	29.59	751.6	29.96	761.0	85	29.4	79	Calm	0	0		0	Haze			0	0	Clear	
Camp Apache, Arizona					63	17.2	72	NE			1		10s		Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	70	21.1	53	NW			2	5ck	2s	NW	Calm	0	0	Cloudy	
Camp Verde, Arizona	26.70	678.2	30.19	766.8	71	21.7	75	S			1	5k	0	Calm		0.53	13.5	Fair	
Campo, California	27.38	695.4	29.95	760.7	50	10.0	86	Calm			0	0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.04	762.7	80	26.7	74	E	7	3.1		0	0			0	0	Clear	
Cape Henry, Virginia	30.01	762.2	30.04	763.0	78	25.6	73	SW	3	1.3		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.00	762.0	30.01	762.2	81	27.2	63	E	12	5.4		2k	0	E		0	0	Fair	
Cape May, New Jersey	30.05	763.3	30.08	764.0	72	22.2	85	NE	8	3.6			10s		E	0	0	Cloudy	
Charleston, South Carolina	29.98	761.5	30.04	763.0	78	25.6	78	NE	8	3.6		0	8s		NE	0	0	Fair	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	63	17.2	57	N	16	7.2		0	8ks		NW	0	0	Cloudy	
Chicago, Illinois	29.20	741.7	29.84	757.9	82	27.8	75	SW	7	3.1		0	0			0	0	Clear	
Cincinnati Ohio	29.31	744.5	29.93	760.2	80	26.7	76	E	2	0.9		1ck	Sm'e	Calm	Calm	0	0	Clear	
Cleveland, Ohio	29.28	743.7	29.96	761.0	74	23.3	68	SE	7	3.1		2cs	Haze	Calm	Calm	0	0	Fair	
Columbus, Ohio	29.18	741.2	29.94	760.5	76	24.4	72	Calm			0	5k	Sm'e	Calm	Calm	0	0	Fair	
Concho, Texas	27.96	710.2	29.55	750.6	75	23.9	81	SE	4	1.8		2c	0	Calm		0	0	Fair	
Corsicana, Texas	29.46	748.3	29.90	759.4	77	25.0	86	S	3	1.3		0	0			0	0	Clear	
Davenport, Iowa	29.27	743.4	29.86	758.4	82	27.8	75	S	1	0.4		0	0			0	0	Clear	
Denison, Texas	29.11	739.4	29.86	758.4	81	27.2	78	S	6	2.7		0	0			0	0	Clear	
Denver, Colorado	24.75	628.6	29.97	761.2	65	18.3	68	SE	8	3.6			8s		W	0.15	3.8	Cloudy	
Detroit, Michigan	29.32	744.7	29.95	760.7	76	24.4	82	Calm	0	0		Haze	5s;hz	Calm	Calm	0	0	Fair	
Dodge City, Kansas	27.23	691.6	29.35	745.5	78	25.6	69	S	12	5.4		2c	0	Calm		0	0	Fair	
Dubuque, Iowa	29.18	741.2	29.83	757.7	81	27.2	78	SW	2	0.9		5k	0	SW		0	0	Fair	
Duluth, Minnesota	28.97	735.8	29.80	756.8	72	22.2	90	Calm	0	0		0	2s		Calm	0.08	2.0	Fair	
Eagle Pass, Texas	29.13	739.9	29.83	757.7	79	26.1	82	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	30.03	762.7	30.09	764.3	61	16.1	77	W	2	0.9		10c	0	Calm		0	0	Cloudy	
El Paso, Texas					81	27.2	52	SE	7	3.1		0	5s		SE	0.04	1.0	Fair	
Erie, Pennsylvania	29.28	743.7	29.96	761 0	76	24.4	64	S	9	4.0		5cs	0			0	0	Fair	
Escanaba, Michigan	29.17	740.9	29.78	756.4	81	27.2	78	S	8	3.6		5c	Haze	S		0	0	Hazy	
Florence, Arizona					78	25.6	65	Calm			0	0	0			0	0	Clear	
Fort Craig, New Mexico																			
Fort Davis, Texas	25.16	639.0	30.12	765.0	72	22.2	49	S	4	1.8		2k	0	NW		Inap.	Inap.	Fair	
Fort Gibson, Indian Ter	29.35	745.5	29.88	758.4	83	28.3	83	S	3	1.3		0	0			0.13	3.3	Clear	
Fort Griffin, Texas	28.60	726.4	29.79	756.7	79	26.1	78	SE	8	3.6		2c	2s	S	Calm	0	0	Fair	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.66	728.0	29.70	754.4	79	26.1	78	SE	4	1.8		0	5s		Calm	0	0	Fair	
Galveston, Texas	29.90	759.4	29.94	760.5	83	28.3	75	SW	4	1.8		0	0			0	0	Clear	
Grand Haven, Michigan	29.28	743.7	29.88	758.9	83	28.3	63	S	15	6.7		0	0			0	0	Clear	
Indianapolis, Indiana	29.19	741.4	29.92	760.0	83	28.3	67	E	3	1.3		0	0			0	0	Clear	
Indianola, Texas	29.88	758.9	29.91	759.7	87	30.6	76	S	8	3.6		1k	0	S		0	0	Clear	
Jacksboro, Texas	28.75	730.2	29.81	757.2	80	26.7	70	S	7	3.1		0	0			0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.94	760.5	82	27.8	79	Calm	0	0		8k	0	SE		0.11	2.8	Cloudy	
Keokuk, Iowa	29.25	742.9	29.89	756.9	90	32.2	60	S	4	1.8		0	0			0	0	Clear	
Key West, Florida	29.87	758.7	29.99	759.4	83	28.3	75	NW	6	2.7		3c;ck	3ks;n	Calm;NW	NW	0.15	3.8	Threatening	
Kittyhawk, North Carolina	30.02	762.5	30.04	763.0	73	22.8	90	NE	5	2.2		0	Haze		Calm	0	0	Clear	
Knoxville, Tennessee	29.04	737.6	29.98	761.5	81	27.2	74	Calm	0	0		5c	0	Calm		0	0	Fair	
La Crosse, Wisconsin	29.08	738.6	29.76	755.9	81	27.2	78	S	8	3.6		0	0			0.02	0.5	Clear	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	69	20.6	65	Calm	0	0		0	2s		Calm	0	0	Fair	
Laredo, Texas	29.44	747.8	29.76	755.9	80	26.7	82	SE	6	2.7		0	0			0	0	Clear	
Lead City, Dakota	24.84	630.9			56	13.3	87	S	4	1.8			10n		S	0.10	2.5	Light rain	
Leavenworth, Kansas	29.01	736.8	29.79	756.7	81	27.2	78	S	3	1.3		2ck	0	S		0	0	Fair	
Los Angeles, California	29.58	751.3	29 91	759.7	64	17.8	78	E	5	2.2			10s		E	0	0	Cloudy	
Louisville, Kentucky	29.40	746.7	29.93	760.2	81	27.2	70	NE	3	1.3		2c	Sm'e	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.34	745.2	29.98	761.5	83	28.3	64	E	4	1.8		0	0			0	0	Clear	
Marquette, Michigan	29.05	737.9	29.49	754.1	82	27.8	71	S	12	5.4		5c	0	S		0	0	Fair	
Mason, Texas	28.26	717.8	29.89	759.2	80	26.7	74	SE	7	3.1			10s		SE	0	0	Cloudy	
Memphis, Tennessee	29.64	752.8	29.94	760.5	86	30.0	75	SE	1	0.4		0	Sm'e		Calm	0	0	Clear	
Milwaukee, Wisconsin	29.17	740.9	29.84	757.9	83	28.3	79	SW	8	3.3		0	0			0	0	Clear	
Mobile, Alabama	29.89	759.2	29.93	760.2	85	29.4	68	N	6	2.7		5c	0	Calm		0	0	Fair	
Montgomery, Alabama	29.76	755.9	29.98	761.5	80	26.7	78	Calm	0	0		0	0			0	0	Clear	
Morgantown, West Virginia	28.97	735 8	29.97	761.2	79	26.1	74	Calm	0	0		0	Sm'e		Calm	0	0	Clear	
Mt. Washington, N. H.	23.96	608.6	30.32	770.1	44	6.7	84	NW	15	6.7		Haze	Haze	Calm	Calm	0	0	Hazy	
Nashville, Tennessee	29.45	748.0	29.95	760.7	83	28.3	71	E	1	0.4		Haze	Haze	Calm	Calm	0	0	Hazy	
New Haven, Connecticut	30.01	762.2	30.12	765.0	68	20.0	78	E	2	0.9		5cs;hz	0			0	0	Fair	
New London, Connecticut	30.08	764.0	30.13	765.3	66	18.9	79	NE	4	1.8		2cs	2s;haze	N	N;Calm	Inap.	Inap.	Fair	
New Orleans, Louisiana	29.84	757.9	29.90	759.4	86	30.0	68	N	10	4.5		0	0			0	0	Clear	
Newport, Rhode Island	30.08	764.0	30.12	765.0	64	17.8	73	NE	4	1.8		6c;cs	1ks	NW	NW	0	0	Fair	
New York, New York	29.97	761.2	30.14	765.5	67	19.4	74	NE	9	4.0			10ks		E	0	0	Cloudy	
Norfolk, Virginia	30.00	762.0	30.06	763.5	82	27.8	63	SW	3	1.3		0	Haze			0	0	Clear	
North Platte, Nebraska	26.97	685 0	29.39	746.5	71	21.7	82	N	8	3.6		8ck	2s	Calm	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.68	753.9	29.72	754.9	52	11.1	93	Calm	0	0			10n		Calm	0.12	3.0	Light rain	
Omaha, Nebraska	28.68	728.5	29.87	758.6	83	28.3	75	S	10	4.5		0	0			0	0	Clear	
Oswego, New York	29.73	755.1	30.04	763.0	66	18.9	79	S	8	3.6		10c	0	NW		0	0	Cloudy	
Pembina, Dakota	29.84	732.5	29.61	752.1	68	20.0	84	NW	16	7.2		0	0			1.33	33.8	Clear	
Philadelphia, Pennsylvania	30.07	763.8	30.12	765.0	68	20.0	84	E	8	3.6			10s		Calm	0	0	Cloudy	
Phœnix, Arizona	28.64	727.4			85	29.4	21	NW			2	0	0			0.01	0.3	Clear	
Pike's Peak, Colorado	18.09	457.2	30.20	767.1	37	2.8	53	SW	4	1.8			8k	0	SW	0.40	10.2	Fair	
Pioche, Nevada	24.01	609.8	29.78	756.4	68	20.0	18	S	14	6.3			0	0		0	0	Clear	
Pittsburg, Pennsylvania	29.20	741 7	29.97	761.2	73	22.8	76	E	1	0.4			2k	Fog	S	Calm	0	0	Fair	
Port Huron, Michigan	29.32	744.7	29.94	760.5	77	25.0	73	S	4	1.8		2c	Sm'e	Calm	Calm	0	0	Fair	
Portland, Maine	30.06	763.5	30.11	764.8	64	17.8	73	SW	9	4.0		5k	Haze	W		0	0	Fair	
Portland, Oregon	29.70	754.4	29.81	757.0	57	13.9	75	SE	4	1.8			10s	NW	S	0	0	Cloudy	
Prescott, Arizona	24.83	630.7	30.19	766.8	67	19.4	89	Calm			0	0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Rassa, Florida	29.88	758.9	29.90	759.4	83	28.3	79	E	6	2.7	.....	5k	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.41	747.0	29.76	755.9	64	17.8	57	S	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.41	747.0	30.00	762.0	69	20.6	70	SW	10	4.5	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Roseburg, Oregon	29.27	743.4	29.83	757.7	52.5	11.4	96	S	7	3.1	.....	.....	10n	.....	Calm	0.16	4.1	Light rain	
Sacramento, California	29.72	754.9	29.80	756.9	56	13.3	75	S	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.90	759.4	88	28.3	75	S	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
St. Marks, Florida	29.90	759.4	29.91	759.7	79	26.1	91	SE	10	4.5	.....	1k	0	SE	.....	0.21	5.3	Clear	
St. Paul, Minnesota	28.87	733.3	29.63	752.6	80	26.7	82	SW	12	5.4	.....	1k	0	SW	.....	0	0	Clear	
Salt Lake City, Utah	25.61	647.9	29.84	757.9	62	16.7	56	E	3	1.3	.....	0	0	.....	.....	0.34	8.6	Clear	
San Antonio, Texas	29.21	741.9	29.76	755.9	78	25.6	82	SE	2	0.9	.....	2k	0	S	.....	0	0	Clear	
San Diego, California	29.87	758.7	29.94	760.5	63	17.2	83	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.34	745.2	29.98	761.5	77	25.0	65	S	9	4.0	.....	0	Haze	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	30.10	764.5	30.13	765.3	65	18.3	89	E	16	7.2	.....	8c	2ks	N	E	0	0	Cloudy	
San Francisco, California	29.81	757.2	29.87	758.7	53	11.7	83	W	10	4.5	.....	0	8s	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.31	592.1	29.85	758.2	59	15.0	70	N	8	3.6	.....	5k	0	Calm	.....	0.35	8.9	Fair	
Savannah, Georgia	29.92	760.0	30.01	762.2	81	27.2	87	NE	7	3.1	.....	1c	0	Calm	.....	0.21	5.3	Clear	
Shreveport, Louisiana	29.73	755.1	29.93	760.2	84	28.9	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.33	618.0	30.21	767.3	64	17.8	67	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.01	762.2	30.04	763.0	78	25.6	78	N	6	2.7	.....	2k	0	E	.....	0	0	Fair	
Springfield, Massachusetts	29.93	760.2	30.06	763.5	69	20.6	65	S	3	1.3	.....	5c	0	N	.....	0	0	Fair	
Stockton, Texas	26.83	681.5	29.83	757.7	72	22.2	45	S	3	1.3	.....	4k	0	Calm	.....	0	0	Fair	
Thatcher's Island, Mass.	30.08	764.0	30.14	765.5	62	16.7	88	S	4	1.8	.....	3ck	0	NW	.....	0	0	Fair	
Toledo, Ohio	29.80	744.2	29.93	760.2	81	27.2	67	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Tucson, Arizona	27.42	696.5	29.97	761.2	74	23.3	81	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Tybee Island, Georgia	29.95	760.7	29.98	761.5	82	27.8	71	E	14	6.3	.....	0	5ks	.....	E	0	0	Fair	
Umatilla, Oregon	29.32	744.7	.....	.....	65	18.3	84	W	4	1.8	.....	.....	10s	.....	W	0	0	Cloudy	
Vicksburg, Mississippi	29.70	754.4	29.95	760.7	85	29.4	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.20	614.7	29.68	753.9	50	10.0	45	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Visalia, California	29.50	749.3	29.86	758.4	61	16.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.96	761.0	30.07	763.8	75	23.9	88	NE	9	4.0	.....	.....	10s	.....	NE	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	72	22.2	0	S	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.94	760.5	30.02	762.5	78	25.6	77	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.47	646.9	29.83	757.7	58	14.4	22	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	30.07	763.8	30.12	765.0	65	18.3	78	E	2	0.9	.....	8cs	1s	NW	NW	0	0	Cloudy	
Yankton, Dakota	28.48	723.4	29.67	753.6	78	25.6	78	SW	6	2.7	.....	2ck	0	W	.....	0	0	Fair	
Yuma, Arizona	29.58	751.6	29.73	755.1	84	28.9	58	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.42	747.3	29.47	748.5	64.0	17.8	76	NE	11	4.9	.....	0	0	.....	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.85	758.9	29.90	759.4	83	28.3	79	SW	2.4	1.1	.....	8c	2ks	Calm	SW	0	0	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.07	763.8	30.18	766.0	81	27.2	87	N	3	1.3	.....	8c	2s	Calm	SE	0	0	.....	F. M. Everett.
Navassa, W. I.	29.85	758.2	29.88	759.2	84	28.9	.....	SE	20	8.9	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.06	763.5	30.06	763.5	82	27.8	83	SE	.....	.....	2	5k	6ks	E	.....	0	0	½Cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herr'n
Medellin, Colombia, S. A.	25.23	640.8	.....	.....	64.8	18.2	72	S	5	2.2	.....	5c:cs	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,600 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,550 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,882.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.486 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.38 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.69 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.82	757.4	54	12.2	53	11.7	86	SW	23	10.3	.....	.....	2	.....	SW	.....	.....	.....	.....	Foggy	
Navy Yard, Pensacola, Fla.	30.05	763.3	82	27.8	82	27.8	83	NE	16	7.2	.....	.....	2	.....	NE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.08	764.0	71	21.7	63	17.2	78	SW	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.98*	761.5*	77.5	25.3	77	25.0	82	Calm	.....	.....	0	.....	7ck;k	.....	W	0	0	.....	.....	Fair.....	
Adams. Apia, Samoan Islands	30.00	762.0	81	27.2	80	26.7	96	E	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	30.28‡	769.1‡	.....	.....	68	20.0	84	W	.....	.....	0–1	.....	7	.....	.....	.....	.....	.....	.....	.....	
Ashuelot. Nagasaki, Japan	30.02	762.5	82	27.8	81	27.2	96	SSW	.....	.....	4	.....	8	.....	SSW	.....	.....	.....	.....	Light mist...	
Alaska, S. 4° 08′, W. 32° 51′	30.20	767.1	80	26.7	80	26.7	74	SE	.....	.....	5	.....	1	.....	SE	.....	.....	Mod'ate	SE	Clear.....	
Canonicus, New Orleans, La	29.96	761.0	68	14.4	84	28.9	79	W	.....	.....	3	.....	3	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	30.13‡	765.3‡	.....	.....	68	20.0	79	E	4	1.8	.....	.....	8	.....	ESE	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	30.26‡	768.6‡	.....	.....	66	18.9	84	N	.....	.....	2	.....	7	.....	NE	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	29.93‡	760.2‡	.....	.....	74	23.3	63	WNW	.....	.....	1	.....	5	.....	W	.....	.....	Smooth	.....	Fair.....	
Franklin, Norfolk, Va.	30.18	766.6	80	26.7	79	26.1	70	NW	3	1.3	.....	.....	1	.....	Calm	0	0	.....	.....	Hazy.....	
Gettysburg N. 32° 46′, E. 28° 37′	29.68‡	753.9‡	.....	.....	80	26.7	100	NW	.....	.....	4	.....	0	.....	.....	0	0	Mod'ate	NW	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.34	770.6	.....	.....	71	21.7	80	N	2.4	1.1	.....	.....	10	.....	N	0	0	.....	.....	Cloudy.....	
Marion, Villefranche, France	30.01	762.2	76	24.4	76	24.4	82	E	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.	
Michigan, Buffalo, N. Y.	29.60	751.8	75	23.9	74	23.3	76	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Yokohama, Japan	29.98‡	761.5‡	.....	.....	79	26.1	86	SW	.....	.....	1–2	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.22†	767.6†	.....	.....	84	28.9	79	ENE	10	4.5	.....	.....	5	.....	N	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	61	16.1	82	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty....	
Palos. Tientsin, China	29.79	756.7	78	25.6	69	20.6	95	N	.....	.....	0–1	.....	10	.....	.....	.....	.....	.....	.....	Thunder-storm..	
Pensacola, Mare Island, California	29.93	760.2	60	15.6	54	12.2	93	SSW	3	1.3	.....	.....	2	.....	SSW	.....	.....	.....	.....	Cloudy?	
Plymouth, New York, N. Y.	30.10‡	764.5‡	.....	.....	68	20.0	79	NE	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Hazy.....	
Ranger. Hong-Kong, China	30.03*	762.7*	.....	.....	85	29.4	83	ENE	.....	.....	0–1	.....	6	.....	Calm	.....	.....	.....	.....	D. clouds....	
Rio Bravo, Brownsville, Texas	29.89	759.2	80	26.7	80	26.7	96	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md.	30.02‡	762.5‡	.....	.....	76	24.4	86	E	.....	.....	2	.....	8	.....	E	0	0	.....	.....	Fair.....	
St. Louis, League Island, Pa	30.04	763.0	75	23.9	71	21.7	90	NNE	8	3.6	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	30.35	770.9	67	19.4	68	20.0	79	N	.....	.....	0–1	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Swatara, Boston, Mass.	30.14‡	765.5‡	.....	.....	63	17.2	94	Calm	.....	.....	0	.....	2	.....	W	.....	.....	.....	.....	Clear.....	
Trenton, Leghorn, Italy	29.95‡	760.7‡	.....	.....	76	24.4	91	NNW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Misty.....	
Tuscarora, Acapulco, Mexico	29.72	754.9	81	27.2	83	28.3	83	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Vandalia, Beirut, Syria	29.66‡	753.4‡	.....	.....	84	28.9	75	WSW	.....	.....	3	.....	2	.....	wsw	.....	.....	Long	wsw	Clear.....	
Wabash, Boston, Mass.	30.13‡	765.3‡	.....	.....	66	18.9	74	WNW	1	0.4	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy.....	
Wyoming, N. 51° 23′, W. 44° 52′	29.35	745.5	63	17.2	54	12.2	87	W	.....	.....	7	.....	10	.....	W	.....	.....	Mod'ate	W	Squally.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-Swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Hong-Kong, China		29.95*	760.7*	86	30.0	96	S			1		4		S	1 hour			Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 33° 34', W. 134° 12'		30.50‡	774.7‡	65	18.3	89	NW			5		10		N	0	Mod'ate	NNW	Cloudy	Capt. Fuller.
S. S. Zelandia																			Capt. Ghost.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES. Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic, N. 46° 20', W. 40° 2'		30.05*	763.3*	64	17.8	68	SW			5		10		SW	9 hours	Slight	SW	Rain and fog	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Aneroid; corrected for elevation, instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			
S. S. Gaelic, N. 41° 46' E. 155° 00'		29.90*	759.4*	63	17.2	??	Var.			2		cs		Var.	0	Swell	NE	Gloomy	Capt. L. Myer.
S. S. Oceanic, N. 29° 29', E. 123° 25'		29.67	751.1	68	20.0	95	WNW			2-3		10		W		3	WSW	Misty	Capt. W. H. Kidley.
																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. O. Pohle.
S. S. Braunschweig, N. 39° 32', W. 68° 2'		30.08	764.0	71.0	21.7	75	N			3		0					N	Bright	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 46° 04′, W. 45° 20′		30.23*	767.8*	54	12.2	87	SW			8		Fog			Light	Mod'ate	SW	Dense fog	Captain Sargent.
S. S. Ohio. N. 41° 41′ W. 50° 51′		30.04	763.0	69	20.6	90	SSW			3		9		SSW	Heavy	Small	SW	Misty	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.35†	770.9†	79	26.1	100	NW			3		2		NW	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 65° 22′, W. 64° 53′		29.97*	761.2*	40.0	4.4	92	W			1		10s			0.09in or 2.3 mm.			Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 17, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.10	764.6	70.9	21.6	84	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Dr. Olive.
Nemours	.....	.....	30.10	764.6	82.0	27.8	68	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Michel.
Algiers	.....	.....	30.00	762.0	85.3	29.6	58	WNW	.....	.....	3	.....	9	.....	.....	Inap.	Inap	Covered	Tourillere.
La Calle	.....	.....	30.01	762 2	81.3	27.4	81	ENE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair	Foufrede.
Tunis	.....	.....	30.04	763.1	95.2	35.1	.....	E	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Jacques.
Sfax	.....	.....	30.09	764.2	93.2	34.0	.....	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.12	765.1	92.3	33.5	30	N	.....	.....	3	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.09	764 2	.....	.....	.....	NW	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.15	765.7	109.4	43.0	.....	SE	.....	.....	6	.....	2	.....	.....	0	0	Fair	Brugnlaux.
Laghouat	.....	.....	30.11	764.7	105 8	41.0	18	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.08	764.1	111.2	44 0	.....	E	.....	.....	1.	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,083? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.62	752.4	30.15	765.9	72.1	22.3	52	SW	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. Ivan Stazi.
Cracow	29.35	745.4	30.09	764.2	67.2	14.0	90	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Dr. Karlinski.
Eperies	29.15	740.3	30.00	762.1	66.2	19.0	63	NW	.....	.....	4	.....	10k;s	.....	SE	0	0	.....	Julius Mikolik.
Gratz	28.92	734.6	30.13	765.4	71.2	21.8	63	SSW	.....	.....	3	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.58	725.8	29.96	761.0	64.9	18.3	55	NNW	.....	.....	3	.....	6	.....	.....	0.378	9.60	.....	Prof. Reissenberg
Kremsmünster	28.84	732 6	30.16	766.0	65.5	18 6	60	WNW	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.91	734.3	29.86	758.5	67.6	19.8	64	NW	.....	.....	3	.....	5	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	30.04	763.1	30.15	765.9	78.1	25.6	46	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.56	750.9	30.01	762.3	70.9	21.6	82	NW	.....	.....	5	.....	7	.....	.....	0.008	0.2	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	30.08	763.9	30.18	766.5	78.8	26.0	42	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	P. Busin.
Vienna	29.48	748.8	30.18	766.5	70.7	21.5	41	WNW	.....	.....	2	.....	5	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.83	732.2	30.31	769.8	68.5	20.3	45	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	30.09	764.2	30.28	769.1	75.0	23.9	53	NE	.....	.....	2	0	.....	N ?	.....	0	0	.....	Royal Observatory
Furnes	30.32	770.1	30.34	770.7	73.6	23.1	61	WNW	.....	.....	3	.....	10	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.18	766.5	30.30	769.7	72.7	22.6	67	W	.....	.....	2	.....	0	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.04	763.0	30.14	765.5	72.1	22.3	.....	SSE	12	5.4	.....	.....	4	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.25	768.3	30.27	768.8	66	18.9	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	George Carrick.
Armagh, Observatory	.....	.....	30.34	770.6	67.3	19.6	.....	SW	8	3.6	.....	.....	6	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.32	770.1	65.0	18.3	.....	WNW	15	6.7	.....	.....	4	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.37	771.4	70.3	21.3	.....	WNW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.58	758.9	30.28	769.1	75.0	23.9	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	83	28.3	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.28	769.1	80.0	26.7	.....	NW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.29	769.4	82.0	27.8	.....	NW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John McLaren.
Chatham, School M. E.	30.16	766.1	30.26	769.1	79.2	26.2	.....	N	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.89	733.8	30.31	769.9	71.0	21.7	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.27	768.8	30.31	769.9	71	21.7	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.27	768.8	30.30	769.6	70	21.1	.....	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	Hazy.....	J. Costello.
Eccles, (near Manchester)	.....	.....	30.30	769.6	72.2	22.3	.....	NW	7.4	3.3	.....	.....	5	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	30.12	765.0	30.34	770.6	72.5	22.5	.....	ESE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.49	698.2	29.80	756.9	70.4	21.3	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.83	757.7	30.06	763.5	82.0	27.8	.....	NE	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.34	770.6	66	18.9	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.98	761 5	30.04	763.0	76.9	24.9	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.05	763.3	30.26	768.6	64.8	18.2	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.28	769.1	30.29	769.4	68	20.0	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	30.12	765.0	30.29	769.4	79.0	26.1	.....	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G. B. Airy.
Guernsey	30.09	764.3	30.30	769.6	69	20.6	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.38	771.6	75	23.9	.....	N	.....	.....	0	.....	0	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.32	770.1	30.42?	772.7?	65	18.3	.....	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	30.04	763.0	30.32	770.1	74.1	23.4	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	J. Fisher.
Kew, Observatory	.....	.....	30.30	769.6	75.4	24.1	.....	NNW	8	3.6	.....	.....	1	.....	.....	.....	.....	D. clouds....	The Staff.
Kingstown	30.33	770.4	30.37	771.4	69	20.6	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	.....	.....	30.28	769.1	76.5	24.7	.....	NW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds..	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.39?	771 9?	30.46?	773.7?	80	26.7	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sgt. Hewitt. A. H. C.
Nairn	30.02	762.5	30.11	764.8	76	24.4	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	⅗ clouded..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.92	760.0	82.8	28.2	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	30.09	764.3	30.28	769.1	83.2	28.4	.....	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.78	756.4	30.29	769.4	75.5	24.2	.....	NW	.....	.....	3	.....	0	.....	.....	.....	.....	Hazy.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.30	769.6	78	25.6	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	H.E. Bellamy.
Plymouth	30.25	768.3	30.32	770.1	74.2	23.5	.....	S	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	John Merrifield.
Roche's Point	30.32	770 1	30.36	771.1	73	22.8	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	30.19	766.8	30.35	770.9	65	18.3	.....	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.08	764.0	59.1	15.1	.....	SW	19	8.5	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.68	758 9	75.0	23.9	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D clouds....	Sergt. W. H. Lyne.
Sheffield	30.02	762.5	30.29	769.4	78.0	25.6	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.26	768.6	30.29	769.4	70.4	21.3	65	W	.....	.....	2	.....	4	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.92	760.0	30.32	770.1	68.5	20.3	.....	WSW	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	W. C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	30.01	762.2	30.04	763.0	64	17.8	.....	SW	.....	.....	6	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	30.10	764.5	30.31	769.9	78.6	25.9	.....	NW	.....	.....	0-1	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C. H. Griffith, F.M.S
Tharso	.....	.....	30.08	764.0	65	18.3	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro, Royal Institution	.....	.....	30.36	771.1	79	26.1	.....	N	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	W. Newcombe.
Valencia, Observatory	.....	.....	30.40	772.1	63.9	17.7	.....	NNW	14	6.3	.....	.....	7	.....	.....	.....	.....	D. clouds....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.77	756.1	55.0	12.8	93	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765 8	70.7	21.5	59	SE	19.0	8.5	.....	0	1	.....	SE	0.01	0.3	Squally.....	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.68	753.9	62.8	11.6	74	E	3	1.5	.....	.....	10	.....	.....	0	0	Dull.....	R. L. J. Ellery.
Monach Light-house, Hebrides	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in Hob. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 60° 5′, W. 30° 55′	.....	.....	30.22	767.6	63	17.2	.....	S	.....	.....	5	.....	5	SW	.....	10*	w;sw	D. clouds....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 46° 20′ W. 50° 25′	.....	.....	30.13	765.3	50	10.0	.....	NNE	.....	.....	4	.....	7	.....	.....	5	.....	D. clouds....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Peruvian, N. 53°, 30′ W. 48° 40′	.....	.....	29.97	761.2	48	8.9	.....	NW	.....	.....	3	.....	9	.....	.....	3	NE	D. clouds....	Capt. W. H. Smith, [R. R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 60° 0′, W. 49° 25′	.....	.....	29.61	752.1	45	7.2	.....	SW	.....	.....	2	.....	10	.....	.....	3	W	Drizzling.....	Capt. Alex. Simpson.
Barque Virginia, N. 49° 0′, W. 23° 40′	.....	.....	30.47	773.9	64	17.8	.....	SW	.....	.....	3	.....	8	.....	.....	2	SW	D. clouds....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.20	665.5			68.4	20 2	89	Calm			0		10s;hz			0.1	3.		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.00	762.1	30.05	763.3	63.9	17.7	70	NW			2		10						
Fanöe	30.11	764.8	30.13	765.3	62.2	16.8	76	W			6		3						
Godthaab, (Greenland)	29.58	751.4	29.63	752.5	45.5	7.5		ENE			2		6						
Stykkisholm, (Iceland)	29.71	754.6	29.75	755.7	52.9	11.6	74	SW			4		8						
Thorshavn, (Faröe)	29.80	756.5	29.90	759.4	53.6	12.0	91	SW			1		10						Rain & fog.
Vestervig	29.87	758.7	30.04	763.0	61.2	16.2	81	NW			6		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.77	756.2	30.32	770.2	68.0	20	33	NE			4		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.19	766.9	30.30	769.6	80.2	26.8	50	NE			2		0			0	0	Clear	Bonvallet, Director.
Avignon, Normal School	30.02	762.6	30.10	764.6	91.3	33	38	NNE			1		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.71	754.6	30.26	768.5	75.0	23.9	34	NE			2		0			0	0	Clear	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	30.05	763.2	30.32	770.2	73.0	22.8	40	ENE			2		0			0	0	Clear	Normal School.
Besançon	29.35	745.5	30.23	767.8	75.2	24	59	NE			8		0			0	0	Clear	Normal School.
Bourg-en-Bresse	29.37	746.1	30.32	770.0	78.8	26.0	51	N			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.64	752.8	30.24	768.2	78.1	25.6	81	NNE			4				NNE	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.97	761.2	30.21	767.4	74.8	23.8	58	NE			4		0			0	0		The Staff.
Carcassonne, Normal School	29.68	753.8	30.07	763.7	89.6	32	33	E			1		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.66	753.4	30.21	767.4	76.6	24.8	69	NE			4		0			0	0	Clear	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.97	761.3	30.28	769.2	74.5	23.6	41	NE			2		0			0	0	Clear	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.83	732.2	30.12	765.0	80.1	26.7	27	NE			1		0			0	0	Clear	Alluard, Director.
Commercy, Normal School	29.43	747.5	30.29	769.3	69.4	20.8	68	N			4		0			0	0	Clear	Dr. Coulet, Director.
Commune de Grèasque*	28.85	732.7	29.99	761.7	90.5	32.5	37	SW			2		2		SW	0	0	¾ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.91	759.8	30.12	765.0	81.3	27.4	28	SE			2		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.95	760.8	30.25	768.4	76.8	24.9	31	E			4		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.34	745.1	30.21	767.8	73.4	23	52	NNW			2		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.11	764.9	30.21	767.4	78.1	25.6	37	NE			4		0			0	0	Clear	T. Carré, Director.
Mâcon, Normal School	29.51	749.5	30.18	766.5	73.8	23.2	60	N			2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	29.14	740.1	30.15	765.9	69.1	20.6	65	NNE			2		1		SSW	0	0	Clear	Normal School
Nismes, Normal School	29.91	759.8	30.10	764.6	97.9	36.6	32	N			1		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.84	757.8	30.21	767.3	73.4	23	29	E			6		0			0	0	Clear	Bernard, Director.
Paris, Observatory	30.05	763.3	30.28	769.2	76.1	24.5	28	ENE			1		0			0	0	Very clear	National Observatory.
Privas	29.63	737.4	30.05	763.2	78.8	26	44	N			3		1		N	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.08	763.9	30.11	764.7	84.0	29.2	24	ENE			6		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.22	767.6	30.30	769.7	78.8	26.0	37	SE			1		0			0	0	Clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.66	753.1	30.11	764.9	84.2	29	78	SW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.48	748.9	30.18	766.6	72.7	22.6	63	NNW			2		0			0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.87	758.8	79.5	26.4										0	0		L'Abbé Marchès.
Lyons																			L. Jays.
Marseilles, Observatory			30.08	763.9	84.9	29.4	50	W			0–1		Haze			0	0		The Staff.
Mont-Louis	25.12	638.0	30.43	773.0	71.2	21.8	27	ENE	5.6	2.50			0			0	0		M. Cave.
Nice			30.12	765.1	78.8	26.0	82	E			3		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	30.00	762.1	30.28	769.1	76.5	24.7	33	NE			2		0			0	0		Marié Davy, Director
Perpignan			30.13	765.2	81.7	27.6	55	SE	9.3	4.17			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.82	579.6			68.9	20.5		S			3		0			0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	30.13	765.2	30.29	769.4	75.6	24.2	36	NE			2		0			0	0	Clear	E. Renou.
Toulouse, Observatory	29.38	746.2	30.10	764.6	88.9	31.6	27	SE			4		0			0	0		The Staff.
Tours	30.00	762.0	30.29	767.9	80.2	26.8	28	ENE			5		0			0	0		C. Marquet.
Versailles, (near Paris)			30.30	769 6	77.0	25.0	21	E			3		0			0	0		Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.78	756.3	29.80	756.9	73.8	23.2	99		28.6	12.8			10n			1.512	38.4	Raining	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.38	746.3	30.28	767.9	70.9	21.6	55	NW			5		1	W		0	0		Prof. Dr. Hoh.
Berlin	30.03	762.8	30.20	767.1	61.7	16.5	82	SW			1		10			0.004	0.1		Prof. Arndt.
Breslau	29.67	753.7	30.21	767.3	59.5	15.3	74	WNW			5		10			Inap.	Inap.		Royal University Obs'y
Carlsruhe	29.84	758.0	30.26	768.7	71.6	22.0	56	NE			2		0			0	0		Albert Senz.
Cassel	29.67	753.6	30.28	769.1	72.0	22.2	58	WNW			2		5	WNW		0	0		Dr. H. Möhl.
Crefeld	30.12	765.0	30.28	769.1	74.5	23.6	45	NW			2		1k			0	0		Director Lose.
Emden	30.15	765.8	30.19	766.8	71.6	22.0	70	NW			2.5		1			0	0		Prof. Prestel.
Frankfort on the Main	29.96	760.9	30.32	770.0	71.2	21.8		ENE			2		0			0	0		Physical Society.
Friedrichshafen	28.82	732.1	30.22	767.5	71.6	22.0	45	NE					0			0	0		M. Wilhelm.
Hamburg	30.13	765.2	30.20	767.0	61.5	16.4	98	NW			2		10			0.028	0.7	Dust-haze...	Captain F. Hegemann.
Kiel	30.13	765.2	30.14	765.6	66.0	18.9	75	W			4		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.84	758.0	29.92	760.0	70.5	21.4	67	NW			4		4			Inap.	Inap.		Prof. E Luther.
Köslin			30.10	764.4	68.3	14.6		NE			6		4			0	0		H. Müller.
Leipsic, Observatory	29.84	757.8	30.25	768.3	67.1	19.5	61	WNW			1		9	W		0	0		Prof. Bruhns.
Memel, Naval School	29.85	758.1	29.89	759.2	66.2	19.0	75	NW			4		0						Reinbrecht and Skalweit.
Neufahrwasser	30.00	761.9	30.01	762.3	67.6	19.8	65	NW			3		7			0.012	0.3		A. Lothes.
Posen	29.91	759.7	30.20	767.0	61.7	16.5	64	NW			6		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.75	755.6	30.28	769.2	71.8	22.1	46	NE			2		0			0	0		Astronomical Observatory.
Stuttgart	29.35	745.5	30.26	768.6	69.3	20.7	51	NE			1		0			0	0		Prof. Schoder.
Treves, (Trier)	29.65	753.1	30.17	766.3	72.5	22.5	41	NE			2		0			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.78	731.1	30.26	768.7	60.8	16.0	75	NW	0	0			3c		NNW	0	0		Dr. Von Bebber.
Wustrow, Naval School	30.10	764.6	30.14	765.6	65.3	18.5	78	W			4		2			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.2	29.96	761.0	68.4?	20.2?		NE			2.5							½ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.55	750.6	29.60	751.9	90.4	32.4	61	WSW	22?	9.8?		2			0	0	D. clouds	
Deesa	29.13	739.9	29.60	751.8	86.1	30.1	51	ESE				10			0.05	1.3	Overcast	
Bombay	29.57	751.1	29.61	752.0	85.8	29.9	81	NW	9	4.0		10		WNW	0	0	Overcast	
Poona	27.65	702.2	29.63	752.7	78.6	25.9	83	S				10	S	S	1.00	25.4	Thunder	
Lahore	28.80	731.6	29.51	749.6	100.2	37.9	38	W	1.1	0.5		0			0	0	Threatening	
Belgaum	27.14	689.4	29.64	752.9	79.4	26.3	85	W	9	4.0		9		W	0	0	D. clouds	
Bangalore																		
Roorkee	28.62	727.0	29.48	748.9	94.8	34.9	54	Calm	2.4	1.1		0			0	0		
Agra	28.94	735.0	29.48	748.7	97.6	36.4	48	N	3	1.3				N	0	0		
Trichinopoly																		
Nagpur	28.57	725.6	29.59	751.5	88.5	31.4	67	NE	2.5	1.1		8		W	0.42	11.4	Gloomy	
Madras																		
Lucknow	29.19	741.3	29.55	750.5	92.2	33.4	70	NNE	3	1.3		7	SW		0	0	D. clouds	
Allahabad	29.23	742.4	29.53	750.0	94.5	34.7	65	NE	1.3	0.6		9			0	0	D. clouds	
Patna	29.40	746.7	29.58	751.2	85.8	29.9	79	E	0.5	0.2		6	E	E	0.03	0.8	D. clouds	
Hazaribagh	27.61	701.3	29.60	751.9	79.8	26.6	85	SW	6.7	3.0		10			1.28	7.1	Thunder-storm	
Cuttack	29.58	751.4	29.66	753.4	87.1	30.6	72	SSW	1.3	0.6		3			0.56	14.2	D. clouds	
Calcutta (Alipore)	29.64	752.8	29.66	753.4	85.7	29.8	69	SW	9	4.0		3	SE		0	0	D clouds	
Goalpara	29.25	743.0	29.64	752.7	83.6	28.7	88	Calm	1.4	0.6		6		SW	0.11	2.8	D. clouds	
Chittagong	29.65	753.0	29.74	755.3	84.1	28.9	85	S	4.6	2.1		4			0	0	Misty	
Sibsagar	29.33	745.0	29.66	753.4	83.2	28.4	91	SE	2.5	1.1		10	SW		0.29	7.4	Gloomy	
Rangoon														SW				
Jubbulpore	28.26	717.8	29.61	752.0	83.5	28.6	74	SW	1.2	0.5		8			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimetrs.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humdity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.77	756.2	30.17	766.2	77.7	25.4	43	W	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.04	762.9	30.14	765.6	80.4	26.9	43	SW	3.1	1.4	.....	.....	1	NW.	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.95	760.6	30.13	765.3	82.8	28.2	37	S	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.85	732.9	30.12	765.0	82.4	28.0	44	SSE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.03	762.6	30.12	765.1	85.8	29.9	.....	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.24	742.6	30.10	764.5	82.2	27.9	49	ESE	1.3	0.6	.....	.....	6	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.27	718.1	30.09	764.3	79.0	26.6	45	E	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.90	759.6	30.12	765.0	80.8	27.1	56	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.95	760.7	30.11	764.9	81.7	27.6	56	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.82	757.3	30.11	764.9	81.1	27.3	33	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.86	758 4	30.10	764.6	86.0	30.0	22	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.99	761.7	30.07	763.8	82.8	28.2	61	NNE	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.11	764.8	30.10	766.0	78.6	25.9	48	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.65	727.7	30.14	765.5	75.4	24.1	39	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.97	761.3	30.08	764.0	91.4	33.0	.....	NNE	.....	.....	2	.....	2	SE	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.90	759.4	30.07	763.7	88.5	31.4	33	W	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.88	759.0	30.08	763.9	87.1	30.6	22	ESE	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce					76.8	24.9	42	NNE	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.81	757.2	30.09	761.9	84.4	29.1	64	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	740.8	30.00	762.0	87.8	31.0	55	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.79	756 6	30.03	762.8	81.0	27.2	72	E	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.92	759.9	29.99	761.8	79.7	26.5	73	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.54	750.4	30.10	764.5	85.6	29.8	22	WNW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.70	754.4	29.89	759.2	79.4	26.3	87	SW	10.1	4.5	.....	.....	8ks;ck	.....	SW	.....	.....	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory.	29.71	754.6	29.77	756.1	79.0	26.1	81	SW	18.1	8.1	.....	1c;cs	0	.....	.....	0	0	Clear	Prof. P. V. Veeder.
Tokei (Yeddo) University	29.66	753.4	29.75	755.7	79.2	26.2	90	SSW	20	8.9	.....	1c	.....	.....	.....	0	0	Fair	

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascallentes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	25.05	636.1	30.02	762.4	65.3	18.5	76	N	1.8	0.8	.....	0	2ks	.....	N	0	0	Clear	Prof. L. Perez.
Guanajuato	23.69	601.8	29.83	757.7	55.4	13.0	85	SW	1.8	0.8	.....	0	10	.....	SE	0	0	Covered	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.9	18.3	85	ENE	.....	.....	.....	0	5	.....	.....	0	0	½ cloudy	Prof. M. Leal.
Mexico	23.10	586.7	30.07	763.8	65.5	18.6	80	SSW	0.9	0.4	.....	0	0	.....	.....	0	0	Fair	Central Observatory.
Orizaba	.....	.....	.....	.....	67.2	14.0	83	Calm	0	0	.....	0	10k	.....	W	0.32	8.0	Covered	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.7	17.6	79	NNE	0.9	0.4	.....	9c	0	.....	.....	0	0	Foggy	M. V. de Leon, M. E.
Puebla	23.32	592.4	29.96	761.0	66.1	19.4	91	NE	2.2	1.0	.....	1c	3s	.....	.....	0	0	Clear	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.84	757.9	29.85	758.2	78.8	26.0	92	S	1.8	0.8	.....	0	0	.....	.....	0	0	Fair	Prof. F. R. Bayly.
San Luis Potosi	24.20	614.1	30.06	763.4	65.0	18.3	75	E	0.9	0.4	.....	3	2	W	E	0	0	½ cloudy	G. Barroeta, M. D.
Vera-Cruz	29.92	759.8	29.94	760.5	80.6	27.0	84	W	4.5	2.0	.....	1c	2k	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	61.7	16.5	83	SSE	1.8	0.8	.....	0	0	.....	.....	0	0	Clear	I. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.34	592.8	30.08	764.1	51.8	11.0	86	NNE	0.2	0.1	.....	1	0	.....	.....	0.93	23.5	Clear	Prof. P. Spina, [M.M. D. D.
Morelia	24.11	612.5	.....	.....	56.2	10.0	67	S	.....	.....	.....	2c	0	E	.....	0.06	1.6	Clear	M. Tena, F.L. Paramo,
Durango	24.25	615.8	30.05	763.2	66.0	18.9	90	Calm	0	0	.....	3c	0	.....	.....	0	0	Clear	M. V. de Leon, C. E.
Colima	28.32	719.4	29.95	760.8	77.5	25.5	84	.....	.....	.....	.....	.....	.....	.....	.....	0.79	20.0	Covered	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,881 m., or 6,105.4 ft.; Cordoba, 818 m., or 2,749 3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,591.2 ft.; Leon, 1,771 m., or 5,823 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m.; or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,196 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.32	770.1	30.32	770.1	70.9	21.6	.....	WNW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.19	766.9	30.25	768.3	70.3	21 3	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.25	768.4	30.25	768.4	67.5	19.7	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Hellevoetsluis	30.29	769.4	30.29	769.4	73.4	23.0	74	NW	.....	.....	2	.....	.....	.....	.....	0	0	Cloudy	H. v d Brink.
Utrecht	30.24	768.1	30.29	769.3	78.1	25.6	58	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter; at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.01	762.2	30.07	763.6	59.0	15.0	72	W	8.5	3.8	.....	.....	8	.....	.....	0.374	9.5	.....	
Brönö	29.86	758.5	29.90	759.5	54.3	12.4	85	SSW	18	8	.....	.....	10	.....	.....	0.118	3.0	Raining	
Christiania	29.72	754.9	29.86	758.4	78.1	25.6	42	WSW	9	4	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.72	754.8	29.76	755.9	61.5	16.4	56	SW	7	3	.....	.....	10	.....	.....	0.906	23.0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.10	764.4	30.28	769.2	70.2	21.2	75	ENE	8.1	3.6	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.07	738.3	30.04	762.9	85.5	29.7	32	SE	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.07	763.7	30.15	765.9	73 8	23.2	63	SE	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.75	755.6	30.10	764.6	68.5	20.3	69	SW	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.20	767.1	30.27	768.9	71.2	21.8	64	NE	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.3	71.2	21.8	.....	WNW	.....	.....	2	.....	2	.....	WNW	1	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.00	762.1	77.0	25.0	.....	NE	.....	.....	4	.....	6	.....	NE	1	.....	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 50′, W. 25° 30′	.....	.....	30.02	762.5	60.6	27.0	.....	NE	.....	.....	3	.....	9	.....	NE	1	NE	Overcast.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.2	71.2	21.8	.....	WNW	.....	.....	2	.....	2	.....	.....	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.56	750.7	29.97	761.1	66.6	19.2	76	NW	16	7	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.38	746.2	29.78	756.4	71.4	21.9	46	NW	9	4	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.51	749.5	29.74	755.3	73.6	23.1	50	N	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.69	754.1	29.71	754.5	72.1	22.3	45	N	11	5	.....	.....	4cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.96	735.5	29.57	751.0	65.7	18.7	69	NW	13	6	.....	.....	7kn	.....	.....	.....	.....	Raining	Physical Cabinet.
Nikolaiev	29.56	750.7	29.63	752.5	71.8	22.1	69	NE	4	2	.....	.....	9kn	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.67	753.9	29.69	754.2	70.5	21.4	65	W	9	4	.....	.....	6	.....	.....	.....	.....	.....	Lugorio.
Moscow	28.92	734.6	29.44	747.8	71.2	21.8	65	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.27	743.4	29.47	748.4	75.7	24.3	49	SW	9	4	.....	.....	4c	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.71	754.6	29.73	755.1	68.0	20.0	56	NW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.36	720.3	29.70	754.3	78.6	25.9	40	NNW	4	2	.....	.....	10n	.....	.....	.....	.....	Heavy clouds...	Physical Observatory
Astrakhan	29.76	756.0	29.68	753.9	80.8	27.1	38	W	11	5	.....	.....	4ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.25	742.9	29.50	749.4	67.3	19.6	78	S	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.74	730.1	29.64	752.8	77.0	25.0	42	WSW	13	6	.....	.....	7k;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.37	746.0	29.59	751.5	94.5	34.7	52	NNW	0	0	.....	.....	9ks	.....	.....	.....	.....	.....	
Kassaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.20	716.3	29.77	756.2	90.7	32.6	49	Calm	0	0	.....	.....	1	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.20	741.7	29.68	753.0	86.0	30.0	40	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.55	750.6	29.82	757.5	86.7	30.4	60	SW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.60	751.7	29.74	755.3	81.3	27.4	65	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 692.07 m., or 1,942.27 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.92	759.9	30.02	762.5	78.1	25.6	60	SE	1.5	0.67	.....	4ck	.....	S	.....	0	0	.....	Antonio Rave, Directorn
Bilbao, Met. Obs'y	29.96	761.0	30.02	762.4	86.4	30.2	65	NW	2.0	0.91	.....	.....	.....	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.16	689.9	.....	.....	84.7	29.3	51	NE	5.3	2.39	.....	.....	4	.....	.....	0	0	Clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.6	29.91	759.7	97.3	36.3	25	SW	6.0	2.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.84	757.9	29.98	761.5	96.6	35.9	46	ESE	2.0	0.89	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.15	740.3	30.00	761.9	82.5	28.2	63	W	7.9	3.52	.....	.....	3	.....	.....	0.047	1.2	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. 1	29.85	758.1	29.91	759.8	84.1	28.9	79	SE	4.0	1.8	.....	2c	1sk	SW	.....	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.1	30.10	764.5	74.7	23.7	68	WSW	12.4	5.6	.....	0	2	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	82.0	27.8	86	SE	0	0	.....	1c	1k	SE	SE	0.049	1.25	Clear	Leonardo de Toledo, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.75	755.7	29.79	756.7	72.3	22.4	.....	SW	.....	.....	[illegible]	.....	5	.....	.....	0.030	1.0	.....	
Umea	29.77	756.2	29.82	757.5	71.6	22.0	61	SW	.....	.....	[illegible]	.....	4	.....	.....	0	0	.....	
Hernosand	29.80	757.0	29.85	758 3	72.5	22.5	43	SSW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Stockholm	29.71	754 7	29.89	759.2	73.4	23.0	38	N	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.82	757.4	29.88	758.9	64.8	18.2	80	NNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.80	756.9	29.87	758.8	73.9	23.3	42	NNE	8.5	3.8	.....	.....	1	.....	.....	0	0	.....	Dr. Hildebrandsson.

Note.—The origin..ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.81	731.7	30.18	766.6	72.5	22.5	54	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.63	727.2	30.21	767.2	73.8	23.2	42	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +4.1 mm.; Thermometer, —0.1 cent.; Relative Humidity, +1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.90	759.4	75.0	24.4	38	NNE	4	2.0	.....	.....	5	.....	WNW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.15	765.8	79.2	26.2	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.57	751.1	29.68	753.9	92.5	33.6	57	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.93	760.2	30.00	762.0	62.9	17.2	82	SW	12	5.4	.....	3k	5n	SW	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	29.53	750.0	29.82	757.4	76	24.4	.....	SW	8	3.6	.....	.....	8s	.....	SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	29.98	761.5	30.04	763.0	58	14.4	84	SW	5	2.2	.....	2ck	8ks	N	N	0.02	0.5	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	30.05	763.3	30.09	764.3	62	16.7	66	SW	6	2.7	.....	5cs	0	.....	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.77	756.1	70.5	21.4	96	W	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Smith, M. A.
Dalhousie, N. B	29.84	757.9	30.00	762.0	68	14.4	97	E	.....	.....	2	.....	.....	.....	.....	0.02	0.5	Cloudy	H. A. Johnson.
Esquimault, B. C	29.74	755.4	29.79	756.7	54.2	12.3	100	.....	.....	.....	.....	10cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.84	757.9	29.86	758.4	64	17.8	76	Calm	0	0	.....	.....	Sm'e	.....	Calm	0	0	Smoky	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.06	763.5	58.0	14.4	82	SE	7	3.1	.....	.....	10s	.....	.....	1.15	29.2	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.05	737.9	29.84	757.9	62	16.7	88	W	4	1.8	.....	Haze	2ks	W	W	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.83	732.3	29.86	758.4	80	26.7	81	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.97	761.2	30.10	764.5	62	16.7	66	SE	2	0.9	.....	.6cs	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.54	750.3	29.89	759.2	80.8	27 1	71	W	.....	.....	4	2c	0	W	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	30.12	765.0	30.14	765.5	52	11.1	73	N	.....	.....	1	0	0	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.53	750.0	29.84	757.9	76	24.4	83	SW	13	5.8	.....	2ck	Sm'e	SW	SW	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....	0	0	.....	C. H. Rigby.
*Montreal, Quebec	29.67	751.1	29.76	755.9	68	20.0	96	W	20	8.9	.....	.....	10n	.....	N	0.59	15.0	Heavy rain	C. H. McLeod, C. E
*Parry Sound, Ontario	29.13	739.9	29.78	756.4	80	26.7	91	W	18	8.0	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.10	739.1	29.79	756.7	83.2	28.4	69	SW	.....	.....	2	0	0	.....	.....	0	0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.24	742.7	29.89	759.2	77	25.0	91	S	6	2.7	.....	5c	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.09	764.3	30.14	765.5	61.5	16.4	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.91	759.7	80	26.7	87	W	7	3.1	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.46	748.3	29.77	756.1	63	17.2	100	NE	.....	.....	1	.....	10n	.....	NE	0.48	12.2	Heavy rain	Capt. Ashe, R. N
*Rockliffe, Ontario	29.26	743.2	29.68	753.9	77	25.0	86	Calm	0	0	.....	Haze	0	.....	.....	0.25	6.3	Fair	W. H. McIntyre.
St. Andrews, N. B	30.01	762.2	30.06	763.5	55	12.8	88	S	0	0	.....	.....	10n	.....	.....	.....	.....	Raining	Dr. Gove.
St. John, N. B	29.95	760.7	30.11	764.8	55	12.8	80	SE	10	4.5	.....	.....	10ks	.....	.....	0.986	25.02	Cloudy	G. Murdoch, C. E.
*Saugeen, Ontario	29.14	740.1	29.81	757.2	79	26.1	81	SW	12	5.4	.....	2cs	0	SW	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.04	737.6	29.76	755.9	83	28.3	71	SW	13	5.8	.....	2k	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.65	727.7	29.86	758.4	75.4	24.1	84	SW	7	3.1	.....	1cs	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.10	764.5	30.13	765.3	68	20.0	60	W	3	1.3	.....	2c	2s	W	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.49	749.0	29.85	758.2	77	25.0	79	SW	3	1.3	.....	5cs	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	59.0	15.0	76	N	.....	.....	.....	0	0	.....	.....	Inap.	Inap.	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.73	755.1	29.95	760.7	67	19.4	87	S	12	5.4			10s		S	0	0	Cloudy	
Alpena, Michigan	29.14	740.1	29.73	755.1	81	27.2	74	W	8	3.6		2cs	Haze	W		0.78	19.8	Fair	
Atlantic City, New Jersey	30.04	763.0	30.06	763.5	72	22.2	85	SE	6	2.7			10s		Calm	0	0	Cloudy	
Augusta, Georgia	29.87	758.7	30.05	763.3	82	27.8	70	NE	3	1.3		0	Haze			0	0	Clear	
Baltimore, Maryland	29.98	761.5	30.03	762.7	76	24.4	86	SE	5	2.2		5k	5ks	S	SE	0	0	Cloudy	
Barnegat, New Jersey	30.05	763.3	30.07	763.8	72	22.2	80	SE	6	2.7		5k	Haze	NW	Calm	0	0	Fair	
Bismarck, Dakota	28.08	713.2	29.93	760.2	67	19.4	74	E	8	3.6		0	5s		SE	0	0	Fair	
BoiseCity, Idaho	26.98	685.3	29.86	758.4	61	16.1	66	Calm	0	0			10s		SW	0	0	Cloudy	
Boston, Massachusetts	29.83	758.9	30.04	763.0	64.5	18.1	81	SW	14	6.3		4ck	4s;hz	N	SW;Calm	0	0	Fair	
Brackettville, Texas	28.75	730.2	29.72	754.9	80	26.7	78	E	5	2.2		0	0			0	0	Clear	
Breckenridge, Minnesota	28.89	733 8	29.86	758.4	59	15.0	94	N	3	1.3		8cs	0	Calm		0	0	Cloudy	
Brownsville, Texas	29.82	757.4	29.88	758.9	80	26.7	86	SE	4	1.8		0	0			0	0	Clear	
Buffalo, New York	29.21	741.9	29.86	758.4	78	25.6	73	SW	6	2.7		2c	1ks	SW	Calm	0	0	Fair	
Burkes, Arizona					86	30.0	30	S			1	0	0			0	0	Clear	
Burlington, Vermont	29.62	752.3	29.86	758.4	70	21.1	79	S	14	6.3			10n		NW	0.11	2.8	Light rain	
Cairo, Illinois	29.61	752.1	29.97	761.2	87	30.6	76	Calm	0	0		0	0			0	0	Clear	
Camp Apache, Arizona					63	17.2	83	Calm			0		10s		W	Blank	Blank	Cloudy	
Camp Grant, Arizona	29.17	639.3	29.97	761.2	68	20.0	84	Calm			0		10s		Calm	0 18	4.6	Cloudy	
Camp Verde, Arizona	29.66	677.2	30.15	765.8	73	22.8	55	Calm			0	10c	0	Calm		0	0	Cloudy	
Campo, California	27.36	694.9	29.93	760.2	50	10.0	86	Calm			0	0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.05	763.3	30.05	763.3	79	26.1	82	NE	8	3.6		0	Haze			0	0	Clear	
Cape Henry, Virginia	30.03	762.7	30.06	763 5	77	25.0	82	E	4	1.8		0	5s		E	0	0	Fair	
Cape Lookout, N. Carolina	30.03	762.7	30.05	763.3	81	27.2	74	E	12	5.4		2k	0	E		0	0	Fair	
Cape May, New Jersey	30.04	763 0	30.07	763.8	73	22.8	81	SE	7	3.1		5c	2s	W	SE	0	0	Fair	
Charleston, South Carolina	29.90	761.7	30.05	763.3	80	26.7	78	E	8	3.6		0	2s		E	0	0	Fair	
Cheyenne, Wyoming	24.07	611.4	30.01	762.2	60	15.6	82	NW	4	1.8		0	0			0	0	Clear	
Chicago, Illinois	29.19	741.4	29 83	757.7	84	28.9	71	SW	8	3.6		0	0			0	0	Clear	
Cincinnati Ohio	29.30	744.2	29.91	759.7	79	26.1	87	S	2	0.9		C	Fog		Calm	0	0	Clear	
Cleveland, Ohio	29.22	742.2	29.89	759.2	78	25.6	73	SE	4	1.8		0	Haze		Calm	0	0	Clear	
Columbus, Ohio	29.16	740.7	29.91	759.7	79	26.1	82	Calm			0	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Corpus Christi, Texas	27.96	710.2	29.55	750.6	77	25.0	72	S	6	2.7		5c	0	SE		0	0	Fair	
Corsicana, Texas	29.44	747.8	29.80	756.2	78	25.6	86	S	7	3.1		0	0			0	0	Clear	
Davenport, Iowa	29.25	742 9	29.84	757.9	83	28.3	71	SW	8	3.6		2cs	0	SW		0	0	Clear	
Denison, Texas	29.12	739.6	29.87	758.7	82	27.8	75	S	6	2.7		2cs	0	Calm		0	0	Fair	
Denver, Colorado	24.80	629.9	30.02	762.5	62	16.7	51	S	4	1.8		0	0			0	0	Clear	
Detroit, Michigan	29.23	742.4	29.85	758.2	80	26.7	74	SW	4	1.8		Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.35	694.7	29.53	750 0	70	21.1	95	SE	8	3.6			10s		Calm	1.30	33.0	Cloudy	
Dubuque, Iowa	29.14	740.1	29.78	756.4	83	28.3	75	SW	6	2.7		8k	Haze	SW	Calm	0	0	Cloudy	
Duluth, Minnesota	29.20	741.7	29.84	757.9	71	21.7	71	Calm	0	0			10s			0	0	Cloudy	
Eagle Pass, Texas	29.08	738.6	29.77	756.1	80	26.7	91	E	4	1.8		0	0			0	0	Clear	
Eastport, Maine	29.99	761.7	30.06	763.5	53	11.7	93	S	6	2.7			10n		Calm	0.03	0.8	Light rain	
El Paso, Texas					81	27.2	45	W	10	4.5		2c	5s	Calm	W	0	0	Fair	
Erie, Pennsylvania	29.21	741.9	29.88	758.9	80	26.7	70	S	4	1.8		0	Haze			0	0	Clear	
Escanaba, Michigan	29.20	741.7	29.81	757.2	76	24.4	77	W	1	0.4		5k	0	W		0	0	Fair	
Florence, Arizona					83	28.3	56	SE			1		10ks		SE	0	0	Cloudy	
Fort Craig, New Mexico																			
Fort Davis, Texas	25.18	639.6	30.14	765.5	75	23.9	52	SW	4	1.8		2c	0	NE		Inap.	Inap.	Fair	
Fort Gibson, Indian Ter	29.39	746.5	29.89	759.2	85	29.4	76	SE	2	0.9		2ck	0	SE		0	0	Clear	
Fort Griffin, Texas	28.60	726.4	29.81	757.2	76	24.4	82	E	4	1.8		5cs	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.75	730.2	29.81	757.2	73	22.8	95	NW	8	3.6			10n		NW	0.12	3.0	Heavy rain	
Galveston, Texas	29.87	758.7	29.91	759.7	83	28.3	83	W	6	2.7		5k	0	NW		0	0	Fair	
Grand Haven, Michigan	29.24	742.7	29.84	757.9	84	28.9	71	SW	16	7.2		0	0			0	0	Clear	
Indianapolis, Indiana	29.19	741.4	29.91	759.7	84	28.9	71	NE	3	1.3		0	0			0	0	Clear	
Indianola, Texas	29.88	758.9	29.90	759.4	87	30.6	76	Calm	0	0		1k	0	Calm		0	0	Clear	
Jacksboro, Texas	28.76	730.5	29.83	757.7	79	26.1	74	S	8	3.6		4cs	0	S		0	0	Fair	
Jacksonville, Florida	29.93	760.2	29.95	761.0	84	28.9	64	NE	6	2.7		0	0			0	0	Clear	
Keokuk, Iowa	29.22	742 2	29.78	756.4	88	31.1	62	S	8	3.6		0	1s		Calm	0	0	Clear	
Key West, Florida	29.87	758.7	29.99	759.4	84	28.9	71	Calm	0	0		2c	5ks	Calm	S	0.17	4.3	Fair	
Kittyhawk, North Carolina	30.05	763.3	30.07	763.8	75	23.9	90	E	5	2.2		5k	Fog	E	E	0	0	Fair	
Knoxville, Tennessee	29.08	738.6	30.04	763.0	78	25.6	78	Calm	0	0		0	Haze		Calm	0	0	Hazy	
La Crosse, Wisconsin	29.08	738.6	29.76	755.9	82	27.8	75	SE	2	0.9			10s		Calm	0.67	17.0	Cloudy	
La Mesilla, New Mexico	26.02	660.9	30.17	766.3	69	20.6	70	Calm	0	0		0	5s		Calm	0	0	Fair	
Laredo, Texas	29.42	747.3	29.75	755.6	80	26.7	78	S	6	2.7		0	0			0	0	Clear	
Lead City, Dakota	24.76	628.9			69	20.6	56	S	12	5.4		0	0			0.03	0.8	Clear	
Leavenworth, Kansas	29.10	739.1	29.79	756.7	78	25.6	73	S	1	0.4		2ck	2ks	NW	NW	0	0	Fair	
Los Angeles, California	29.56	750.8	29.89	759.2	62	16.7	83	NE	2	0.9			10s		E	0	0	Cloudy	
Louisville, Kentucky	29.40	746.7	29.92	760.0	83	28.3	67	E	2	0.9		2c	Sm'e	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.33	745.0	29.98	761.5	79	26.1	65	E	2	0.9		0	8ks		Calm	6	0	Cloudy	
Marquette, Michigan	29.14	740.1	29.79	756.7	78	25.6	69	W	8	3.6		1k	0	W		0.08	2.0	Clear	
Mason, Texas	28.26	717.8	29.92	760.0	80	26.7	70	SE	2	0.9		0	5s		SE	0	0	Fair	
Memphis, Tennessee	29.69	754.1	29.99	761.7	85	29.4	75	SE	3	1.3		1c	0	Calm		0	0	Clear	
Milwaukee, Wisconsin	29.14	740.1	29.82	757.4	83	28.3	75	SW	12	5.4		0	5ks			0	0	Fair	
Mobile, Alabama	29.94	760.5	29.98	761.5	82	27.8	71	SE	7	3.1		0	1s		SE	0	0	Clear	
Montgomery, Alabama	29.82	757 4	30. 4	763.0	80	26.7	61	Calm	0	0		0	0			0	0	Clear	
Morgantown, West Virginia	28.95	735.3	29.94	760.5	81	27.2	70	Calm	0	0		5c	Haze	W	Calm	0	0	Fair	
Mt. Washington, N. H.	23.86	606.0	30.22	767.6	51	10.6	100	W	44	19.7			10n		W	0.19	4.8	Light rain	
Nashville, Tennessee	29.48	748.8	29.99	761.7	85	29.4	68	SE	3	1.3		Haze	2s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.94	760.5	30.06	763.5	70	21.1	80	SW	8	3.6		8k	Haze	SW		0	0	Cloudy	
New London, Connecticut	30.02	762.5	30.07	763.8	68	20.0	84	SW	6	2.7		2k	5s	SW	SW	0	0	Fair	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	83	28 3	70	N	8	3.6			10ks		NE	0	0	Cloudy	
Newport, Rhode Island	30.02	762.5	30.07	763.8	67	19.4	79	SW	4	1 8		7k	0	SW		0	0	Fair	
New York, New York	29.89	759.2	30.06	763.5	68	20.0	84	SW	7	3.1			10s		Calm	0	0	Cloudy	
Norfolk, Virginia	30.02	762.5	30.08	764.0	77	25.0	82	SE	1	0.4			10s		Calm	0	0	Cloudy	
North Platte, Nebraska	27.04	686.8	29.48	748.8	68	20.0	90	E	6	2.7			10s		E	0.12	3.0	Cloudy	
Olympia, Washington Ter.	29.78	756.4	29.82	757.4	54	12.2	93	Calm	0	0			10n		Calm	0.36	9.1	Light rain	
Omaha, Nebraska	28.72	729.5	29.74	755.4	74	23.3	86	W	6	2.7		5c	0	SW		0.72	18.3	Fair	
Oswego, New York	29.57	751.1	29.88	758.9	81	27.2	67	SW	9	4.0		5k	0	W		0	0	Fair	
Pembina, Dakota	29.04	737.6	29.84	757.9	60	15.6	88	SE	5	2.2		1c	0	Calm		0	0	Clear	
Philadelphia, Pennsylvania	30.01	762.2	30.06	763.5	71	21.7	85	S	6	2.7			10s;sn'		S;Calm	0	0	Cloudy	
Phœnix, Arizona	28.65	727.7			80	26.7	51	SE			1	5c	0	S		Inap.	Inap.	Fair	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	40	4.4	65	SW	16	7.2		8k	0	SW		0	0	Fair	
Ploche, Nevada	24.00	609.6	29.77	756.1	63	17.2	28	SE	6	2.7		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.15	740.4	29.91	759.7	79	26.1	78	S	3	1.3		0	0			0	0	Clear	
Port Huron, Michigan	29.22	742.2	29.83	757.7	82	27 8	75	SW	8	3.6		0	0			0	0	Clear	
Portland, Maine	29.94	760.5	29.98	761.5	62	16.7	88	S	12	5.4			Fog			0.10	2.5	Foggy	
Portland, Oregon	29.82	757.4	29.92	760.0	57	13.9	87	SE	4	1.8			10ks		S	0.47	11.9	Threatening	
Prescott, Arizona	24.76	628.9	30.12	765.0	67	19.4	55	Calm	0	0		2k	0	Calm		0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Rassa, Florida	29.90	759.4	29.92	760.0	81	27.2	78	NE	7	3.1	.....	5c	0	W	.....	0.12	3.0	Fair	
Red Bluff, California	29.61	749.5	29.86	758.4	63	17.2	72	S	10	4.5	.....	1k	0	Calm	.....	0	0	Clear	
Rochester, New York	29.26	743.7	29.85	758.2	78	25.6	73	SW	8	3.6	.....	5c	Haze	Calm	Calm	0	0	Fair	
Roseburg, Oregon	29.33	745.0	29.80	759.2	55	12.8	93	Calm	0	0	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Sacramento, California	29.82	757.4	29.90	759.4	61	16.1	82	S	7	3.1	.....	5c	0	SW	.....	0	0	Fair	
St. Louis, Missouri	29.36	745.7	29.91	759.7	87	30.6	65	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.97	761.2	29.98	761.5	78	25.6	82	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.98	736.1	29.75	755.6	76	24.4	81	E	6	2.7	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Salt Lake City, Utah	25.51	647.9	29.84	757.9	69	20.6	35	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.22	742.2	29.77	756.1	78	25.6	86	SE	2	0.9	.....	5k	0	S	.....	0	0	Clearing	
San Diego, California	29.86	758.4	29.93	760.2	63	17.2	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.27	743.4	29.90	759.4	82	27.8	63	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	69	20.6	90	SW	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	
San Francisco, California	29.87	758.7	29.94	760.5	57	13.9	94	SW	6	2.7	.....	2cs	8ks	Calm	W	0.01	0.3	Cloudy	
Santa Fé, New Mexico	23.33	592.6	29.87	758.7	62	16.7	51	NE	1	0.4	.....	5ck	0	Calm	.....	0	0	Fair	
Savannah, Georgia	29.93	760.2	30.02	762.5	80	26.7	52	NE	10	4.5	.....	5k	0	Calm	.....	0	0	Fair	
Shreveport, Louisiana	29.72	754.9	29.92	760.0	83	28.3	83	SE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Silver City, New Mexico	24.26	616.2	30.20	767.1	65	18.3	78	Calm	0	0	.....	8k	2s	Calm	Calm	0.94	23.9	Cloudy	
Smithville, North Carolina	30.04	763.0	30.07	763.8	81	27.2	67	E	10	4.5	.....	1cs	1ks	Calm	E	0	0	Clear	
Springfield, Massachusetts	29.83	757.7	29.95	760.7	68	20.0	84	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	26.85	682.0	29.85	758.2	73	22.8	34	S	3	1.3	.....	4k	0	Calm	.....	0	0	Fair	
Thatcher's Island, Mass	29.97	761.2	30.02	762.5	63	17.2	89	SW	12	5.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Toledo, Ohio	29.24	742.7	29.86	758.4	86	30.0	65	S	8	3.6	.....	0	Haze	.....	Calm	0	0	Hazy	
Tucson, Arizona	27.36	694.9	29.91	759.7	75	23.9	76	SE	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	82	27.8	71	E	17	7.6	.....	0	5ks	.....	E	0	0	Fair	
Umatilla, Oregon	29.54	750.3	.....	.....	56	13.3	94	W	4	1.8	.....	.....	10n	.....	W	0.23	5.8	Light rain	
Vicksburg, Mississippi	29.75	755.6	29.99	761.7	80	26.7	78	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.13	612.9	29.61	752.1	56	13.3	63	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.58	751.3	29.94	760.5	62	16.7	77	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.94	760.5	30.05	763.3	77	25.0	86	S	8	3.6	.....	.....	8ks	.....	S	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	49	9.4	.....	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.98	761.5	30.05	763.3	80	26.7	78	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.51	647.9	29.87	758.7	51	10.6	53	SW	3	1.3	.....	2k	0	SW	.....	0	0	Fair	
Wood's Holl, Mass	30.02	762.5	30.07	763.8	66	18.9	78	S	8	3.6	.....	.....	10s;hz	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.59	726.2	29.81	757.2	72	22.2	87	N	1	0.4	.....	8cs	0	W	.....	0.17	4.3	Fair	
Yuma, Arizona	29.54	750.3	29.69	754.1	78	25.6	49	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.72	754.9	29.77	756.1	67.0	19.4	74	N	5	2.2	.....	2k	0	NE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.87	758.7	29.89	759.2	82	27.8	78	SE	3.6	1.6	.....	4c	0	SW	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.07	763.8	30.08	764.0	78	25.6	90	Calm	0	0	.....	8c	8n	Calm	SE	0.36	9.1	.....	F. M. Everett.
Navassa, W. I.	29.86	758.4	29.94	760.5	83	28.3	.....	E	18.3	8.2	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	82	27.8	83	E	.....	.....	2	8c	5k	SE	.....	0.110	2.79	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A.	25.22	640.6	.....	.....	66.5	19.2	78	N	7	3.1	.....	Haze	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,152 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,160.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 6,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	63	17.2	60	15.6	91	SW	13	5.8	.....	.....	10	.....	SW	.....	.....	.....	.....	Covered	
Navy Yard, Pensacola, Fla.	30.10	764.5	82	27.8	82	27.8	75	NE	14	6.3	.....	.....	2	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.02	762.5	74	23.3	61	16.1	??	SSW	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Misty.....	
Naval Hospital, Yokohama, Japan	29.84*	757.9*	78.5	25.8	79.5	26.4	82	SW	.....	.....	6	.....	2ck:c	.....	SW	0	0	.....	.....	Fair	
Adams. Apia, Samoan Islands	29.95	760.7	81	27.2	80	26.7	91	ESE	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Cloudy.	
Alliance, Havre, France	30.27‡	768.8‡	.....	.....	70	21.1	90	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ashuelot. Nagasaki, Japan	30.00	762.0	82	27.8	82	27.8	83	S	.....	.....	4	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
Alaska, S. 5° 47', W. 34° 49'	30.18	766.6	78	25.6	76	24.4	91	SSE	.....	.....	5	.....	10	.....	S	1.2	30.	Mod'ate	SSE	Showery.....	
Canonicus, New Orleans, La	29.98	761.5	56	13.3	83	28.3	63	E	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Rainy	
Colorado, New York, N. Y.	30.07‡	763.8‡	.....	.....	70	21.1	80	SSW	8	3.6	.....	.....	10	.....	SW	0	0	... .	.....	Light fog.....	
Constitution, Havre, France	30.28‡	769.1‡	.....	.....	71	21.7	82	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Despatch, Prince's Islands, Sea of Marmora	29.93‡	760.2‡	.....	.....	73	22.8	63	W	.....	.....	3	.....	5	.....	W	.....	.....	Smooth	.....	Fair.....	
Franklin, Norfolk, Va.	30.28	769.1	78	25.6	76	24.4	86	Calm	0	0	.....	.....	2?	.....	Calm	0	0	.....	.....	Cloudy	
Gettysburg N. 32° 48', E. 26° 20'	29.80‡	756.9‡	.....	.....	81	27.2	100	NW	.....	.....	3	.....	0	.....	.....	0	0	Long	NW	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.29	769.4	.....	.....	73	22.8	72	N	2.4	1.1	.....	.....	2	.....	N	0	0	.....	.....	Fair.....	
Marion, Villefranche, France	30.14	765.5	80	26.7	83	28.3	60	E	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.	
Michigan, Buffalo, N. Y.	29.56	750.8	81	27.2	80	26.7	74	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.79‡	756.7‡	.....	.....	79	26.1	91	SW	.....	.....	3-4	.....	2	.....	SW	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.	30.25†	768.3†	.....	.....	82	27.8	83	ENE	18	8.0	.....	.....	2	.....	S	0	0	.....	.....	Clear.....	
Onward, Callao, Peru	30.08†	764.0†	.....	.....	62	16.7	83	N	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.83	757.7	84	28.9	76	24.4	91	SE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Mare Island, California	30.02	762.5	64	17.8	60	15.6	94	W	3	1.3	.....	.....	10	.....	SW	.....	.....	.....	.....	Clearing.....	
Plymouth. New York, N. Y.	30.12‡?	765.0‡?	... .	.....	71	21.7	85	SSW	.....	.....	2	.....	10	.....	S;W	.....	.....	.....	.....	Hazy	
Ranger. Hong-Kong, China	30.03*	762.7*	.....	.....	85	29.4	87	SSE	.....	.....	0-1	.....	1	.....	Calm	.....	.....	.....	.....	Blue sky.....	
Rio Bravo, Brownsville, Texas	29.85	758.2	79	26.1	79	26.1	95	ESE	.....	.....	1	.....	4	.....	Calm	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md.	29.98‡	761.5‡	.....	.....	78	25.6	86	S	.....	.....	3	.....	8	.....	SW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.04	763.0	74	23.3	72	22.2	90	S	5	2.2	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	30.37	771.4	70	21.1	72	22.2	67	W	.....	.....	0-1	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Swatara, Boston, Mass.	30.06‡	763.5‡	.....	.....	65	18.3	94	SW	.....	.....	3	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
Trenton, N. 43° 23', E. 9° 40'	30.09‡	764.3‡	.....	.....	74	23.3	??	WNW	.....	.....	3	.....	0	.....	.. ..	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico	29.66	753.4	82	27.8	87	30.6	65	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Vandalia, Beirut, Syria	29.65‡	753.1‡	.....	.....	85	29.4	72	WSW	.....	.....	2	.....	2	.....	WSW	.....	.....	Long	WSW	Clear.....	
Wabash, Boston, Mass.	30.02‡	762.5‡	.....	.. ..	67	19.4	79	SW	7	3.1	.....	.....	8	.....	Calm	0	0	... .	.....	Cloudy.....	
Wyoming, N. 60° 24', W. 42° 43'	29.57	751.1	60	15.6	52	11.1	93	SW	.....	.....	5	.....	10	.....	WSW	.....	.....	Mod'ate	WSW	Overcast.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			Capt. Berry.
S. S. China, Hong-Kong, China		29.95*	760.7*	84	28.9	100	SW			1		2		SW	0			Fine	Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Cavarly.
S. S. City of Peking																			Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			Capt. Morse.
S. S. Dakota																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Grenada																			Capt. Fuller.
S. S. Wilmington, N. 31° 51', W. 138° 05'		30.46‡	773.7‡	67	19.4	??	NW			5		8		N	0	Mod'ate	NNW	Cloudy	Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. R. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 43° 34' E. 164° 50'		29.89*	759.2*	54	12.2	??	SSW			4		s; fog		SW	Blank	Swell	E	Foggy	Capt. W. H. Kidley.
S. S. Oceanic, N. 26° 22', E. 121° 0'		29.62	752.3	72	22.2	95	S			3		10		W		2	SW	D. clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 37° 55', W. 73° 17'		30.09	764.3	77.0	25.0	69	W			1		7		W			S	Overcast	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 42° 54′, W. 51° 26′		30.25*	768.3*	54	12.2	93	NE			3		10		W	Mod'ate	Mod'ate	SW	Cloudy	Captain Sargent.
S. S. Ohio, N. 43° 53′ 30″ W. 44° 27′		29.96	761.0	63	17.2	94	NNW			4		10		NNE	Heavy	Small	NW	Misty	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.38†	771.6†	78	25.6	100	NW			3		1		NW	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 49° 37′, W. 9° 20′		30.42*	772.7*				NNE	12	5.4			6		N		Mod'ate	NW	Foggy	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 65° 22′, W. 64° 53′		30.09*	764.3*	41.0	5.0	70	SE			1	1s	8ks	SE	SE	0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 18, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum't'l error and temperature. Inches.	Barometer: Corrected for instrum't'l error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.13	765.4	70.7	21.5	82	NE			1		2			0	0	Fair	Dr. Ollive.
Nemours			30.15	765.9	82.9	28.3	63	NE			3		0			0	0	Clear	Michel.
Algiers			30.07	763.7	81.7	27.6	69	W			3		5			0	0	Cloudy	Tourilliere.
La Calle			30.09	764.3	84.2	29.0	80	NNE			1		4			0	0	Cloudy	Foufrede.
Tunis			30.08	764.0	93.0	33.9		E			4		0			0	0	Clear	Jacques.
Sfax			30.01	762.2	89.6	32.0		ENE			3		0			0	0	Clear	Gau.
Saida			30.15	765.9	93.4	34.1	27	N			2		3			0	0	Pretty fair	Herbin.
Tebessa			30.11	764.8				S			3		3			0	0	Pretty fair	Watrin.
Geriville			30.17	766.4	104.4	40.2		S			6		3			0	0	Pretty fair	Brugniaux.
Laghouat			30.16	766.0	105.8	41.0	13	W			1		0			0	0	Clear	Bertrand.
Biskra			30.12	765.0	105.8	41.0		SE			1		1			0	0	Pretty fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum't'l error and temperature. Inches.	Barometer: Corrected for instrum't'l error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.03	752.5	30.15	765.9	79.5	26.4	51	SW			2		3			0	0		Prof. Ivan Stozi.
Cracow	29.29	743.9	30.02	762.5	68.4	20.2	54	W			1		8			0	0		Prof. Dr. Karlinski.
Eperies	29.14	740.1	29.98	761.6	72.0	22.2	50	NW			4		0cks		SE	0	0		Julius Mikolik.
Gratz	28.95	735.2	30.15	765.9	73.2	22.9	59	NW			5		6			0	0		Andreas Rospini.
Hermannstadt	28.57	725.6	29.94	760.4	70.5	21.4	46	NW			3		4			0	0		Prof. Reissenberg
Kremtmünster	28.78	731.1	30.03	764.0	71.2	21.8	63	WNW			3		7			0	0		Prof. C. Wagner
Lemberg	28.96	735.5	29.92	759.9	64.9	18.3	66	NW			2		7			0	0		Dr. T. Stanecki.
Pola	30.06	763.4	30.17	766.2	82.0	27.8	56	W			1		0			0	0		I.R. Hydrographic Office
Szathmar	29.88	751.4	30.04	762.9	69.4	20.8	67	NW			5		2			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	30.10	764.4	30.20	767.0	81.0	27.2	49	Calm			0		0			0	0	Clear	P. Busin.
Vienna	29.44	747.7	30.13	765.4	71.4	21.9	68	W			2		10			0.017	1.2		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum't'l error and temperature. Inches.	Barometer: Corrected for instrum't'l error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.82	732.0	30.27	768.8	77.0	25.0	48	NE			3		1			0	0		Prof. M. Passau.
Brussels	30.07	763.8	30.29	768.6	81.0	27.2	51	NE			2	3	3	N	W	0	0		Royal Observatory
Furnes	30.32	770.2	30.35	770.8	74.5	23.6	67	NW			3		10			0	0		M. E. de Cae.
Maeseyck	30.18	766.6	30.31	769.8	77.5	25.3	62	WNW			2		3			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.12	765.0	30.21	767.3	76.0	24.4	.....	W	17	4.9	.....	.....	5	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.33	770.4	30.34	770.6	66	18.9	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	30.43	772.9	70.7	21.5	.....	WNW	3	1.3	.....	.....	9	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.38	771.6	67.7	19.8	.....	WNW	14	6.3	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.45	773.4	69.8	21.0	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton																			Thomas Mackereth.
Bradford, Yorkshire	29.92	760.0	30.32	770.1	76.8	24.9	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	84.0	28.9	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.30	769.6	82.6	28.1	.....	NNW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds.....	H. Todd. [H.C.
Cardington	.....	.....	30.34	770.6	80.2	26.8	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.19	766.8	30.32	770.1	82.2	27.9	.....	S	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.94	735.1	30.34	770.6	78.0	25.6	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.37	771 4	30.40	772.1	70	21.1	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	30.30	769.6	30.32	770.1	70	21.1	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Clear	J. Costello.
Eccles, (near Manchester)	.....	.....	30.35	770.9	67.8	19.9	.....	NW	3.8	1.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Falmouth, Observatory	30.14	765.5	30.37	771.4	73.8	23.2	.....	SSE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.58	700 5	29.89	759.2	66.0	18.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.81	757.2	30.04	763.0	81	27.2	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.40	772.1	71	21.7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.08	764.0	30.13	765.3	77.9	25.5	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.12	765.0	30.33	770.4	68.8	20.4	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	30.31	769.9	30.32	770.1	71	21.7	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	30.15	765.8	30.31	769.9	80.5	26.9	.....	N	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	30.10	764.5	30.32	770.1	70	21.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.42	772.7	75	23.9	.....	E	.....	.....	2	.....	0	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.38	771.6	30.43	772.9	65	18.3	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	30.06	763.5	30.35	770.9	77.6	25.3	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	J. Fisher.
Kew, Observatory	.....	.....	30.32	770.1	78.6	25.9	.....	NNW	6	2.7	.....	.....	8	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	30.41	772.4	30.44	773.2	69	20.6	.....	NW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	30.31	769.9	78.4	25.8	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.02	762.5	30.09	764.3	82	27.8	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sgt. Hewitt A. H. C.
Nairn	30.12	765.0	30.21	767.3	72	22.2	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.99	761.7	85.5	29.7	.....	SE	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.13	765.3	30.31	769.9	84.4	29.1	.....	WSW	.....	.....	3	.....	1k	.....	N	0	0	Blue sky.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.84	757.9	30.35	770.9	71.3	21.8	.....	NW	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.34	770.6	78	25.6	.....	WNW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	H.E. Bellamy.
Plymouth	30.28	769.1	30.35	770.9	80.0	26.7	.....	S	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	30.40	772.1	30.44	773.2	71	21.7	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	30.24	768.1	30.39	771.9	72	22.2	.....	NNE	.....	.....	2	.....	4?	.....	.....	.....	.....	Overcast?...	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	30.13	765.3	58.2	14.6	.....	SW	33	14.8	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.92	760.0	81.8	27.7	.....	NE	.....	.....	1	.....	7	.....	.....	Blank	Blank	D clouds.....	Sergt. W. H. Lyne.
Sheffield	30.05	763.3	30.32	770.1	82.0	27.8	.....	NW	.....	.....	1	.....	1	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.31	769.9	30.34	770.6	80.9	27.2	48	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.96	761.0	30.37	771.4	68.9	20.5	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	30.15	765.8	30.18	766.6	67	19.4	.....	W	.....	.....	6	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	30.13	765.3	30.34	770.6	80.4	26.9	.....	NW	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Rev. C. H. Griffith, F. M. S.
Thurso	.....	.....	30.14	765.5	69	20.6	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	30.38	771.6	84	28.9	.....	N	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	30.43	772.9	70.8	21.6	.....	WNW	4	1.8	.....	.....	8	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.52	749.8	55.0	12.8	100	W	.....	.....	1	.....	10kn	.....	.....	0.8	20.	Covered.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.97	761.2	30.17	766.2	68.4	20.2	79	SE	13.0	5.8	.....	1	4	.....	SE	0.16	4.1	Fine.....	C. Meldrum.
Melbourne, Observatory	29.31	744.5	29.40	746.7	51.8	11.0	92	NE	2	0.9	.....	.....	10	.....	.....	.....	.....	Raining.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 48° 40', W. 38° 5'	.....	.....	29.99	761.7	58	14.4	.....	NNW	.....	.....	4	.....	10	.....	.....	10*	W;S	Raining.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 47° 10' W. 49° 35'	.....	.....	30.22	767.6	53	11.7	.....	WSW	.....	.....	2	.....	1	.....	.....	3	NNE	Blue sky.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Peruvian, N. 55° 0' W. 40° 30'	.....	.....	30.08	764.0	54	12.2	.....	W	.....	.....	2	.....	3	.....	.....	2	S	D. clouds.....	Capt. W. H. Smith, R. N. [R]
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 58° 30', W. 49° 30'	.....	.....	29.93	760.2	45	7.2	.....	WSW	.....	.....	2	.....	10	.....	.....	3	W;SSW	Overcast.....	Capt. Alex. Simpson.
Barque Virginia, N. 49° 45', W. 23° 5'	.....	.....	30.46	773.7	62	16.7	.....	E	.....	.....	3	.....	10	.....	.....	3	SE	Overcast.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.20	665.5			68.0	20.0	92	SE			2	1c	2s		E	0.2	5.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.6	29.95	760.8	69.1	20.6	67	NW			4		5						
Fanöe	30.09	764.3	30.11	764.8	61.9	16.6	82	WNW			6		10						
Godthaab, (Greenland)	29.80	756.9	29.84	758.0	43.2	6.2		S			6		10						
Stykkisholm, (Iceland)	29.80	757.0	29.85	758.1	52.2	11.2	83	W			2		5						
Thorshavn, (Faröe)	29.85	758.1	29.88	759.0	54.1	12.3	96	W			5		10						Rain & fog
Vestervig	29.84	757.8	30.00	762.1	62.6	17.0	82	WNW			6		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.78	756.5	30.34	770.5	71.6	22	47	NE			2		0			0	0	Clear	Collignon, Director.
Amiens, Normal School	30.19	766.7	30.29	769.4	87.4	30.8	58	NE			2		0			0	0	Clear	Bonvallet, Director.
Avignon, Normal School	30.07	763.6	30.14	765.6	90.5	32.5	36	ENE			1		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.71	754.7	30.25	768.4	81.5	27.5	40	SSE			2		0			0	0	Clear	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	30.01	763.0	30.31	769.9	80.4	26.9	46	N			2		0			0	0	Clear	Normal School.
Besançon	29.36	745.8	30.21	767.4	81.1	27.3	43	NE			6		0			0	0	Clear	Normal School.
Bourg-en-Bresse	29.38	746.2	30.32	770.1	80.8	27.1	57	N			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.63	752.7	30.25	768.4	83.5	28.6	29	NE			4				NE	0	0		A. Wagner, Director.
Brest, Naval Observatory	30.09	761.9	30.24	768.0	81.7	27.6	53	NE			3		0			0	0		The Staff.
Carcassonne, Normal School	29.76	755.9	30.15	765.7	93.6	34.2	30	W			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.67	753.5	30.22	767.5	85.5	29.7	66	NE			2		0			0	0	Clear	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.95	760.6	30.25	768.4	77.7	25.4	56	NE			2		0			0	0	Clear	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.87	733.4	30.15	765.8	86.0	30.0	32	NE			1		0			0	0	Clear	Alluard, Director.
Commercy, Normal School	29.42	747.2	30.26	768.7	75.6	24.2	57	ENE			4		0			0	0	Clear	Dr. Coulet, Director.
Commune de Gréasque*	29.10	739.1	30.24	768.1	90.1	32.3	33	S			4		2		SW	0	0	¾ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.97	761.2	30.17	766.3	88.2	31.2	31	NE			2		0			0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.98	761.6	30.28	769.0	82.4	28	50	E			2		0			0	0	Clear	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.21	741.9	30.08	764.1	78.3	25.7	45	NNE			2		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.17	766.4	30.27	768.9	83.1	28.4	47	NE			3		0			0	0	Clear	T. Carré, Director.
Mâcon, Normal School	29.51	749.6	30.17	766.4	78.8	26	63	N			2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	29.22	742.2	30.23	767.7	72.3	22.4	49	N			2		0			0	0	Clear	Normal School
Nismes, Normal School	29.93	760.1	30.11	764.9	98.2	36.8	33	E			1		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.82	757.5	30.19	766.9	80.6	27	34	N			2		0			0	0	Clear	Bernard, Director.
Paris, Observatory	30.05	763.3	30.28	769.1	81.0	27.2	44	NNE			1		0			0	0	Hazy	National Observatory.
Privas	29.04	737.5	30.04	763.0	85.1	29.5	51	N			2		1		N	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.14	765.5	30.17	766.3	89.6	32.0	30	E			4		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.22	767.6	30.30	769.7	83.1	28.4	50	N			1		0			0	0	Clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.06	738.1	30.11	764.9	86 0	30	59	WSW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.50	749.2	30.19	766.8	75.4	24.1	65	E			2		0			0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.82	757.5	79.2	26.2										0.20	5.		L'Abbé Marchési.
Lyons																0	0		L. Jays.
Marseilles, Observatory			30.13	765.2	83.7	28.7	49	W			1-2	0				0	0	Clear	The Staff.
Mont-Louis	25.10	637.5	30.41	772.5	77.0	25.0	30	WSW	3.7	1.67		0				0	0		M. Cave.
Nice			30.16	766.1	80.6	27.0	67	SE			1	0				0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	30.00	762.0	30.28	769.0	82.6	28.1	46	NE			3	0				0	0		Marié Davy, Director
Perpignan			30.17	766.4	85.6	29.8	40	SE	9.3	4.17		0				0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.90	581.7			64.6	18.1		S			2	2				0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	30.12	765.1	30.29	769.3	81.5	27.5	53	NE			2	0				0	0	Clear	E. Renou.
Toulouse, Observatory	29.48	748.9	30.22	767.6	88.9	31.6	32	NE			1	0				0	0		The Staff.
Tours	30.03	762.8	30.23	767.8	85.8	29.9	30	E			4	0				0	0		C. Marquet.
Versailles, (near Paris)			30.30	769.6	82.8	28.2	39	NE			3	0				0	0		Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.63	754.2	29.72	754.8	73.2	22.9	98	SW	4.3	1.9		10m				1.122	28.5	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.35	745.6	30.21	767.2	81.5	27.5	67	SW			5		7	W		0	0		Prof. Dr. Hoh.
Berlin	29.97	761.3	30.14	765.6	69.6	20.9	68	W			4		8			0.028	0.7		Prof. Arndt.
Breslau	29.60	751.9	30.13	765.4	66.9	19.4	72	WNW			6		6			0	0		Royal University Obs'y
Carlsruhe	29.81	757.2	30.23	767.7	79.5	26.4	51	NNE			1		0			0	0		Albert Senz.
Cassel	29.63	752.7	30.24	768.2	71.6	22.0	65	NNW			2		7	WNW		0	0		Dr. H. Möhl.
Crefeld	30.10	764.5	30.26	768.6	77.5	25.3	56	N			3		6k			0	0		Director Lose.
Emden	30.11	764.7	30.15	765.7	71.6	22.0	74	NW			4		0			0	0		Prof. Prestel.
Frankfort on the Main	29.92	759.9	30.27	768.8	78.8	26		WNW			2		4			0	0		Physical Society.
Friedrichshafen	28.83	732.4	30.23	767.8	71.2	21.8	67	SW					0			0	0		M. Wilhelm.
Hamburg	30.09	764.3	30.16	766.0	71.2	21.8	78	NW			5		8k			0.004	0.1	Fine	Captain F. Hegemann.
Kiel	30.09	764.2	30.10	764.6	70.0	21.1	79	W			3		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.81	757.2	29.89	759.3	63.5	17.5	72	W			5		8			Inap.	Inap.		Prof. E Luther.
Köslin			30.02	762.4	65.8	18.8		NW			5		4			0	0		H. Müller.
Leipsic, Observatory	29.50	756.8	30.21	767.2	73.0	22.8	63	NW			4		6	NW		0.024	0.6		Prof. Bruhns.
Memel, Naval School	29.82	757.3	29.86	758.5	66.7	19.3	72	WSW			4		10ks						Reinbrecht and Skalweit.
Neufahrwasser	29.91	759.8	29.93	760.2	68.0	20.0	53	WNW			4		10			0	0		A. Lothes.
Posen	29.83	757.7	30.11	764.9	65.8	18.8	67	NW			8		10			0.051	1.3		Dr. Magener.
Strassburg (in Alsace)	29.73	755.2	30.26	768.6	80.1	26.7	46	NE			1		1			0	0		Astronomical Observatory.
Stuttgart	29.33	745.0	30.31	769.8	79.2	26.2	38	NW			1		0			0	0		Prof. Schoder.
Treves, (Trier)	29.61	752.1	30.13	765.4	80.8	27.1	48	NE			3		2			0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.77	730.7	30.23	767.9	74.5	23.6	51	NW	2	1			5k	NW		0	0		Dr. Von Bebber.
Wustrow, Naval School	30.07	763.6	30.10	764.6	67.8	19.9	80	WSW			4		8			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.2	29.99	761.8	78.6	25.9		NE			1.5		k						Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.50	749.2	29.55	750.5	91.0	32.8	66	WSW	35?	15.67			1			0	0	D. clouds	
Deesa	29.09	738.9	29.54	750.4	98.9	37.2	47	ENE					9	N		0	0	Thunder	
Bombay	29.57	751.1	29.61	752.0	86.4	30.2	83	SW	9	4.0			10		NW	0.39	9.9	Overcast	
Poona	27.59	700.8	29.58	751.2	78.8	26.0	76	WSW					7		W	2.12	53.8	D. clouds	
Lahore	28.77	730.6	29.47	748.5	103.1	39.5	33	SW	1.5	0.7			0			0	0	Blue sky	
Belgaum	27.15	689.7	29.68	753.9	75.1	23.9	87	W	17	7.6			10		W	0	0	Overcast	
Bangalore																			
Roorkee	28.59	726.2	29.45	748.1	94.8	34.9	57	SE	2.7	1.2			2			0	0		
Agra	28.94	735.1	29.48	748.7	101.1	38.4	39	NE								0	0		
Trichinopoly																			
Nagpur	28.56	725.3	29.58	751.4	83.6	28.7	83	Calm	2.6	1.2			8		N	0.14	3.6	Gloomy	
Madras																			
Lucknow	29.17	740.8	29.52	749.9	94.1	34.5	58	N	3.4	1.5			0			0	0	Blue sky	
Allahabad	29.22	742.0	29.51	749.6	97.9	36.6	50	Calm	1.8	0.8			10			0	0	Overcast	
Patna	29.36	745.8	29.54	750.3	88.4	31.3	76	E	0.8	0.4			10	E	E	0	0	Overcast	
Hazaribagh	27.61	701.2	29.59	751.6	81.8	27.7	83	Calm	9.0	4.0			9	N	S	0.66	16.8	Thunder-storm	
Cuttack	29.52	749.8	29.60	751.9	88.1	31.2	73	SE	1.6	0.7			3			0	0	D. clouds	
Calcutta (Alipore)	29.61	752.2	29.64	752.7	85.5	29.7	81	S	3.0	1.3			3	E		0	0	D. clouds	
Goalpara	29.24	742.6	29.62	752.3	83.7	28.7	79	Calm	2.7	1.2			8		SW	0.11	2.8	D. clouds	
Chittagong	29.63	752.5	29.72	754.8	84.5	29.2	85	S	4.6	2.1			8			0.19	4.8	Gloomy	
Sibsagar	29.39	744.2	29.63	752.6	84.4	29.1	83	W	2.8	1.2			10	SW	SW	0.19	4.8	D. clouds	
Rangoon																			
Jubbulpore	28.26	717.7	29.61	752.0	82.2	27.9	79	SE	1.3	0.6			7			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.01 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimetrs.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.78	756.5	30.18	766.5	80.2	26.8	53	W	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	30.07	763.8	30.18	766.5	81.5	27.5	47	S	1.8	0.8	.....	.....	3	S	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.98	761.4	30.16	766.1	81.7	27.6	40	SE	2.5	1.1	.....	.....	2	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.87	733.3	30.13	765.4	84.2	29.0	43	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.65	753.0	30.13	765.3	87 4	30.8	.....	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.26	743.3	30.12	765.1	85.6	29.8	40	NNE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.29	718.5	30.11	764.7	81.1	27.3	51	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.95	760.8	30.17	766.3	78.8	26.0	65	E	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	30.00	761.9	30.16	766.1	82.0	27.8	46	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.84	757.8	30.13	765.4	82.6	28.1	32	NNE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.88	759.0	30.13	765.2	90.1	32.3	16	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F Meucci.
Leghorn	30.04	763.0	30.12	765.1	82.4	28.0	52	W	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.15	765.8	30.20	767.0	77.5	25.3	55	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.68	728.5	30.17	766.3	77.2	25.1	40	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	30.02	762.4	30.12	765.1	86.4	30.2	25	NNW	.....	.....	4	.....	2	NW	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.96	760.7	30.12	765.0	86.5	30.3	49	W	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.93	760.2	30.12	765.1	87.8	31.0	18	NNE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	76.3	24.6	44	NNW	15.4	6.9	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.91	759.6	30.09	764.3	83.5	28.6	67	S	.....	.....	4	.....	2	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.22	742.1	30.06	763.4	84.9	29.4	59	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.89	759 1	30.13	765.3	80.6	27.0	52	ENE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.96	760.9	30.03	762.8	84.2	29.0	53	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.59	751.6	30.15	765.7	85.5	29.7	20	NE	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.66	753.3	29.85	758.2	79.3	26.3	83	SSE	9.2	4.1	.....	.....	4s;ks	.....	SSW	0	0	Cloudy	
Tokei (Yeddo) Observatory	29.80	756.9	29.86	758.4	79.1	26.2	80	SW	6.8	3 0	.....	0	0	.....	.....	0	0	Clear	I. Arai, Director.
Tokei (Yeddo) University	29.68	753.9	29.77	756.1	78	25.6	91	SW	2.5	1.1	.....	1cs	.....	.....	.....	0	0	Fair	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Guadalajara	25.06	636.2	29.94	760.6	62.4	16.9	100	NW	0.9	0.4	.....	1c	2s	.....	.....	0.34	8.6	Foggy	L. Castillo, A. E.
Guanajuato	23.65	600.9	29.78	756.5	59.9	15.5	88	NW	0.9	0.4	.....	0	8	.....	NW	0	0	Cloudy	Prof. L. Perez.
Leon	.....	.....	.....	.....	63.9	17.7	72	S	.....	.....	.....	0	7	.....	.....	0	0	Cloudy	Prof. V. Fernandez
Mexico	23.05	585.5	30.04	762.3	62.6	17.0	76	NW	0.9	0.4	.....	0	0	.....	.....	0.02	0.4	Fair	Prof. M. Leal.
Orizaba	.....	.....	.....	.....	65.4	18.0	85	Calm	0	0	.....	7c	0	.....	.....	0	0	Fair	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Pabellon, (Aguascalts)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Puebla	.....	.....	.....	.....	62.2	16.8	83	Calm	0	0	.....	0	2s	.....	.....	0	0	Fair	M. V. de Leon, M. E.
Toluca	23.30	591.9	29.94	760.4	54.5	12.5	86	ENE	.....	.....	.....	1c	4cs	.....	.....	0.21	5.3	⅛ cloudy	Prof. B. Gonzalez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velasquez.
San Luis Potosí	29.84	757.8	29.85	758.1	79.7	26.5	94	S	0.9	0.4	.....	5ck	0	.....	.....	0	0	⅛ cloudy	Prof. F. R. Bayly.
Vera-Cruz	24.13	613.1	30.01	762 3	62.0	16.7	79	E	0.9	0.4	.....	0	10	.....	E	0	0	Covered	G. Barreda, M. D.
Zacatecas	20.87	758.6	29.89	759.3	82.4	28.0	80	ESE	.....	.....	.....	2c	8ck	.....	.....	0.10	2.5	Covered	Prof. J. Rossell.
Puebla, (Catholic Institute)	.....	.....	.....	.....	60.8	16.0	83	SSE	1.8	0.8	.....	5	3	.....	NNE	0.08	2.0	Cloudy	J. A. Bonilla, M. E.
Morelia	23.23	590.2	29.98	761.5	51.8	11.0	85	NE	0.7	0.3	.....	1	0	.....	.....	0.39	10.0	Clear	Prof. P. Spina, [M.M.D.D.
Durango	24.04	610.5	.....	.....	66.2	19.0	59	ESE	0.9	0.4	.....	0	0	.....	.....	0.20	5.0	Clear	M. Tena, F.L. Paramo,
Colima	24.24	615.8	30.05	763.2	65.8	18.8	90	NW	0.9	0.4	.....	0	6ks	.....	N	0.30	7.6	½ cloudy	M. V. de Leon, C. E.
San Juan E. Mihuapam	28.37	720.5	29.99	761.7	70.7	26.5	75	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Cloudy	R. Banda, C. E.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,831 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.3 ft.; Leon, 1,774 m., or 5,824 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosí, 1,833 m., or 5,310.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.32	770.0	30.32	770.0	75.6	24.2	.....	NNW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.20	767.0	30.25	768.4	69.3	20.7	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.26	768.7	30.26	768.7	65.5	18.6	.....	WNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.27	768.9	30.27	768.9	79.0	26.1	58	N	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.24	768.1	30.29	769.3	76.8	24.9	60	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v d Bruik.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.98	761.5	30.04	762.9	58.6	14.8	68	NW	11.9	5.3	.....	.....	1	.....	.....	0.120	3.2	.....	
Bröno	29.80	756 8	29.84	757.8	53.6	12.0	45	W	18	8	.....	.....	8	.....	.....	0.425	10.8	.....	
Christiania	29.65	753.1	29.79	756.6	77.7	25.4	42	W	4	2	.....	.....	8	.....	.....	0	0	.....	
Tromsö	29.59	751.6	29.63	752.7	54.7	12.6	68	W	4	2	.....	.....	10	.....	.....	0.488	12.4	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.12	765.1	30.31	769.9	70.7	21.5	78	SE	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.15	740.4	30.11	764.7	92.3	33.5	22	SE	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.17	766.4	30.26	768.6	75.0	23.9	61	SW	4.9	2.2	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.84	757.8	30.19	766.7	73.8	23 2	60	SW	16.1	7.2	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.25	768.4	30.32	770.2	74.1	23.4	65	S	.....	.....	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 8° 48′, E. 13° 08′	.....	.....	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, N. 17° 05′, W. 25° 03′	2	NE	D. Clouds	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	1	.....	D. Clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	
.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation: they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.55	750.5	29.96	761.0	64.2	17.9	68	WNW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.36	745.8	29.76	755.9	72.7	22.6	43	NW	11	5	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.43	747.6	29.66	753.4	75.9	24.4	60	WNW	7	3	.....	.....	5k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.59	751.5	29.60	751.9	73.8	23.2	56	NW	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.00	736.6	29.61	752.0	68.0	20.0	72	NW	18	8	.....	.....	8k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.67	753.5	29.74	755.3	77.7	25.4	45	NNW	18	8	.....	.....	4k	.....	.....	.....	.....	Heavy clouds	Kurdakof.
Kertch	29.72	755.0	29.74	755.5	77.9	25.5	75	W	9	4	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.90	734.1	29.42	747.3	67.8	19.9	68	NNW	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.27	743.4	29 47	748.4	75.9	24.4	50	SSW	9	4	.....	.....	8n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.60	751.7	29.61	752.2	73.4	23.0	48	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.36	721.0	29.72	755.0	80.2	26.8	36	NW	22	10	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.82	757.3	29.73	755.2	79.3	26.3	45	SSE	2	1	.....	.....	0ks	.....	.....	.....	.....	.....	Nebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.12	739.6	29.37	746.1	66.4	19.1	80	S	7	3	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[illegible]	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.67	728.3	29.56	750.9	75.2	24.0	50	SW	7	3	.....	.....	8ck; ks;	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.34	745.2	29.55	750.6	100.2	37.9	53	NNE	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.20	716.3	29.78	756.3	90.0	32.2	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.25	743.0	29.73	755.2	87.6	30.9	26	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.46	748.2	29.73	755.1	88.0	31.1	59	SW	2	1	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.59	751.6	29.73	755.2	85.1	29.5	49	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.31 ft.; Irkutsk, 892 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.22 ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	30.00	762.1	30.11	764.7	81.5	27.5	56	SE	1.6	0.72	.....	2c	.....	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.08	764.0	30.13	765.4	87.6	30.9	61	NW	2 7	1.23	.....	.....	.....	.....	.....	0	0	Clear	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.29	693.1	.....	.....	89.6	32.0	30	NE	4.2	1.89	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.97	710.4	30.01	762.3	101.8	38.8	19	SW	7.4	3.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.94	760.4	30.08	764.0	96.3	35.7	61	NE	6.1	2.75	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.26	743.2	30.11	764.9	84.0	28.9	58	WSW	4.8	2.14	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.90	759.5	29.97	761.1	82.8	28.2	76	SE	5.6	2.5	.....	4c; cs	1k	WSW	.....	0	0	Fair	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.09	764.2	30.16	766.6	77.0	25.0	68	W	13.4	6.0	.....	0	4	.....	WNW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.5	29.99	761.8	84.2	29.0	84	SE	8.5	3.79	.....	0	3k	.....	SE	0.010	0.25	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.58	751.3	29.62	752.3	64.0	17.8	.....	W	.....	.....	2	.....	8	.....	.....	0	0	.....	
Umea	29.67	753.7	29.72	755.0	63.7	17.6	70	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	29.70	754.3	29.76	755.8	64.0	17.8	94	WNW	.....	.....	4	.....	6	.....	.....	0.295	7.5	Raining	
Stockholm	29.58	751.2	29.75	755.7	65.5	18.6	62	N	.....	.....	6	.....	7	.....	.....	0	0	.....	
Wisby	29.60	751.7	29.77	756.2	66.9	19.4	75	WNW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.70	754.4	29.78	756.3	61.9	16.6	68	N	17.0	7.6	.....	.....	7	.....	N	0.048	1.21	.....	Dr. Hildebrandsson.

Note.—The origin..ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.83	732.2	30.19	766.9	75.2	24.0	50	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.65	727.7	30.21	767.2	79.5	26.4	44	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +4.6 mm.; Thermometer, —1.4 cent.; Relative Humidity, —8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Columbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.98	761.5	74.1	23.4	60	NNE	11	5.0	.....	.....	6	.....	NE	0.118	3.0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.17	766.3	80.2	26.8	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.62	752.3	29.73	755.2	93.0	33.9	54	SW	.....	.....	3	.....	1ks	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.52	749.8	29.80	756.9	81	27.2	.....	Calm	0	0	.....	0	2s	.....	NW	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.09	754 1	29.75	755.6	58	14.4	97	SE	2	0.9	.....	.....	10n	.....	SE	0.60	15.2	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.77	756.1	29.81	757.2	60	15.6	98	SE	18	8.0	.....	.....	10n	.....	Calm	0.630	16.00	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.59	751.6	29.77	756.1	76.0	24.4	81	W	.....	.....	1	0	1s	.....	.....	0.624	15.85	Clear	James Smith, M. A.
Dalhousie, N. B	29.61	752.1	29.77	756.1	57.5	14.2	94	E	.....	.....	2	.....	.....	.....	.....	1.75	44.5	Threatening	H. A. Johnson.
Esquimault, B. C	29.92	760.0	29.90	761.0	54.7	12.6	97	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.76	755.9	29.79	756.7	50	10.0	93	NE	16	7.2	.....	.....	Fog	.....	Calm	0.32	8.1	Threatening	J. McWilliams.
Fredericton, N. B	29.71	754.6	29.77	756.1	56.2	13.4	93	S	1	0.4	.....	.....	10s	.....	.....	0.31	7.9	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.12	739.6	29.91	759.7	64	17.8	89	E	10	4.5	.....	8k	2n	SW	W	0.090	2.29	Threatening	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.79	731.3	29.82	757.4	82	27.8	88	W	.....	.....	1	1ks	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.69	754.1	29.82	757.4	58	14.4	99	S	12	5.4	.....	.....	10n	.....	S	0.601	12.73	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.52	749.8	29.87	758.7	80.4	26.9	82	N	.....	.....	1	8c?	0	NW	.....	0	0	Clear?	Geo. Dickson, M. A.
Heart's Content, N. F	30.14	765.6	30.17	766.3	57	13.9	81	NW	.....	.....	3	1c	1k	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.51	749 5	29.83	757.7	81	27.2	68	NE	5	2.2	.....	6c	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.96	761.0	30.00	762.0	61.0	16 1	.....	S	10	4.5	.....	9ks	0	S	.....	.....	.....	Showery	C. H. Rigby.
*Montreal, Quebec	29.58	751.3	29.77	756.1	76	24.4	78	N	7	3.1	.....	5cs	0	.....	.....	0.05	1.3	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.20	741.7	29.86	758.4	72	22.2	99	SE	7	3.1	.....	.....	10n	.....	SW	0.02	0.5	Light rain	Rev. R. Mosley.
Peterboro, Ontario	29.14	740.1	29.84	757.9	80.5	26.9	74	Calm	.....	.....	0	6ck	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.21	741.9	29.86	758.4	77	25.0	95	S	3	1.3	.....	5c	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.90	759.4	29.95	760.7	66.5	18.6	.....	S	15	6.7	.....	.....	.....	.....	.....	0.40	10.2	Raining	Peter Grant.
Port Stanley, Ontario	29.25	742.9	29.85	758.2	80	26.7	89	W	5	2.2	.....	2ck	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.45	748.0	29.76	755.9	58	14.4	91	NE	.....	.....	4	.....	10n	.....	NE	0.89	22.6	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.39	746 5	29.82	757.4	69	20.6	90	Calm	0	0	.....	10cs	0	NW	.....	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.69	754.1	29.74	755.4	53	11.7	96	SE	1	0.4	.....	.....	Fog	.....	.....	1.36	34.5	Foggy	Dr. Gove.
St. John, N. B	29.62	752.3	29.78	756.4	55	12.8	93	S	5	2.2	.....	.....	10n	.....	.....	0.190	4.83	Drizzling	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.88	758.9	62	16.7	92	NE	14	6 3	.....	.....	10ks	.....	SW	0.31	7.9	Heavy rain	K. Stewart.
Stayner, Ontario	29.10	739 1	29.84	757.9	73	22.8	92	Calm	0	0	.....	.....	10n	.....	W	Inap.	Inap.	Cloudy	R. J. Cole.
Stratford, Ontario	28.62	726.9	29.82	757.4	77.0	25.0	94	SW	2	0.9	.....	8cs	0	SW	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.98	761.5	30.01	762.2	62	16.7	88	SE	9	4.0	.....	.....	10n	.....	S	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario	29.50	749.3	29.86	758.4	80	26.7	82	N	2	0.9	.....	5cs	Haze	W	Calm	Inap	Inap	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	68.0	20.0	60	SW	.....	.....	.....	0	0	.....	.....	Inap.	Inap.	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10	CLOUDS. Amount. Low'r 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.56	750.8	29.76	755.9	81	27.2	78	W	3	1.3	.....	2c	0	Calm	.....	0.45	11.4	Fair	
Alpena, Michigan	29.22	742.2	29.84	757.9	63	17.2	94	NW	7	3.1	.....	.....	10n	.....	Calm	1.20	30.5	Light rain	
Atlantic City, New Jersey	29.87	758.7	29.89	759.2	75	23.9	85	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.83	757.7	30.01	762.2	83	28.3	56	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.86	758.4	29.90	759.4	80	26.7	74	SW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	29.86	758.4	29.83	758 9	82	27.8	74	W	13	5.8	.....	0	Haze	.....	Calm	0	0	Clear	
Bismarck, Dakota	27.90	708.6	29.76	755.9	75	23.9	86	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy	
BoiseCity, Idaho	27.19	690.6	30.07	763.8	51	10.6	59	SE	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boston, Massachusetts	29.69	751.8	29.74	755.4	79	26.1	78	W	11	4.9	.....	6c;cs	Haze	NW	Calm	0.08	2.0	Fair	
Brackettville, Texas	28.72	729.5	29.69	754.1	78	25.6	78	E	3	1.3	.....	0	0	.....	.....	0	0	Cloudy	
Breckenridge, Minnesota	28.86	733.0	29.80	756.9	72	22.2	90	SE	12	5.4	.....	8cs	0	Calm	.....	0	0	Cloudy	
Brownsville, Texas	29.79	756.7	29.85	758.4	76	24.4	90	Calm	0	0	.....	8c	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.17	740.9	29.82	757.4	78	25.6	86	SW	6	2.7	.....	5c	0	SW	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	76	24.4	41	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.54	750.3	29.78	756.4	77	25.0	72	N	4	1.8	.....	5c	0	W	.....	0.34	8.6	Fair	
Cairo, Illinois	29.62	752.3	29.99	761.7	86	30.0	72	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	66	18.9	75	Calm	.....	.....	0	2k	0	Calm	.....	0	0	Fair	
Camp Grant, Arizona	25 15	638.8	29.95	760.7	68	20.0	70	N	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.60	677.2	30.15	765.8	71	21.7	49	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.34	694.4	29.93	760.2	39	3.9	80	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.01	762.2	30.01	762.2	81	27.2	74	S	9	4.0	.....	2k	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	29.95	760.7	29.97	761.2	78	25.6	78	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	30.00	762.0	30.01	762.2	84	28.9	72	S	12	5.4	.....	2c	0	NW	.....	0	0	Fair	
Cape May, New Jersey	29.90	759.4	29.93	760.2	76	24.4	85	S	10	4.6	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	29.92	760.0	29.98	761.5	80	26.7	91	E	5	2.2	.....	.....	10n	.....	E	0.03	0.8	Light rain	
Cheyenne, Wyoming	24.03	610.4	29.97	761.2	62	16.7	77	NW	12	5.4	.....	0	8ks	.....	NW	0.02	0.5	Cloudy	
Chicago, Illinois	29.18	741.2	29.82	757.4	81	27.2	73	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cincinnati Ohio	29.27	743.4	29.87	758.7	84	28.9	75	S	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Cleveland, Ohio	29.16	740.7	29.83	757.7	83	28.3	67	S	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Columbus, Ohio	29.12	739.6	29.87	758.7	82	27.8	67	Calm	.....	.....	0	5k	Sm'e	Calm	Calm	0	0	Fair	
Corpus Christi, Texas	27.99	710.9	29.58	751.3	77	25.0	69	S	3	1.3	.....	5c	0	S	.....	0	0	Fair	
Corsicana, Texas	29.46	748.3	29.91	759.7	79	26.1	91	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.30	744.2	29.90	759.4	79	26.1	78	N	1	0.4	.....	1ks	0	Calm	.....	0.07	1.8	Clear	
Denison, Texas	29.14	740.1	29.89	759.2	81	27.2	83	SE	4	1.8	.....	2cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.76	628.9	29.98	761.5	71	21.7	53	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Detroit, Michigan	29.18	741.2	29.80	756.9	80	26.7	78	SW	5	2.2	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.31	693.7	29.46	748 3	75	23.9	86	S	16	7.2	.....	2k	8s	W	W	0	0	Cloudy	
Dubuque, Iowa	29.26	743.2	29.92	760.0	73	22.8	81	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Duluth, Minnesota	29.28	743.7	29.93	760.2	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.16	740.7	29.86	758.4	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.64	752.8	29.70	754.4	55	12.8	87	S	2	0.9	.....	.....	Fog	.....	Calm	1.85	47.0	Foggy	
El Paso, Texas	.....	.....	.....	.....	83	28.3	52	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.16	740.7	29.82	757.4	83	28.3	71	SW	6	2.2	.....	5cs	Haze	.....	.....	0	0	Fair	
Escanaba, Michigan	29.29	744.0	29.91	759.7	72	22.2	76	W	3	1.3	0	2k	0	W	.....	0.52	13.2	Clear	
Florence, Arizona	.....	.....	.....	.....	74	23.3	48	Calm	.....	.....	.....	0	0	.....	.....	Inap	Inap.	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	27.14	638.5	30.10	764.5	73	22.8	59	W	7	3.1	.....	2k	0	E	.....	0.27	6.9	Fair	
Fort Gibson, Indian Ter	29.40	746.7	29.91	759.7	82	27.8	71	E	3	1.3	.....	5cs	0	Calm	.....	0.13	3.3	Fair	
Fort Griffin, Texas	28.64	727.4	29.84	757.9	74	23.3	81	Calm	0	0	.....	2c	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.74	755.4	79	26.1	82	SE	4	1.8	.....	0	5s	.....	Calm	1.34	34.0	Fair	
Galveston, Texas	29.86	758.4	29.89	759.2	84	28.9	71	E	8	3.6	.....	5k	0	E	.....	0.30	7.6	Fair	
Grand Haven, Michigan	29.21	741.9	29.81	757.2	77	25.0	82	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Indianapolis, Indiana	29.14	740.1	29.86	758.4	86	30.0	68	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.86	758.4	29.88	758.9	83	28.3	87	NE	12	5.4	.....	10c;k	0	Calm;NE	.....	0	0	Cloudy	
Jacksboro, Texas	28.78	731.0	29.86	758.4	78	25.6	86	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.91	759.7	29.94	760.5	81	27.2	84	NW	4	1.8	.....	2k	0	NW	.....	0.80	20.3	Fair	
Keokuk, Iowa	29.28	743.7	29.84	757.9	83	31.1	69	SW	2	0.9	.....	1c	0	SW	.....	Inap.	Inap.	Clear	
Key West, Florida	29.92	760.0	29.96	761.0	82	27.8	75	S	8	3.6	.....	3c;k	1ks	Calm;S	S	0.43	10.9	Fair	
Kittyhawk, North Carolina	29.93	761.5	30.00	762.0	80	26.7	78	W	8	3.6	.....	0	2s	.....	W	0	0	Fair	
Knoxville, Tennessee	29.04	737.6	30.00	762.0	77	25.0	86	Calm	0	0	.....	.....	10ks;sm	.....	Calm	0	0	Cloudy	
La Crosse, Wisconsin	29.22	742.2	29.93	760.2	68	20.0	90	NE	6	2.7	.....	.....	10s	.....	N	1.67	42.4	Cloudy	
La Mesilla, New Mexico	26.01	660.6	30.16	766.1	70	21.1	85	Calm	0	0	.....	0	5s	.....	Calm	0.06	1.5	Fair	
Laredo, Texas	29.43	747.5	29.76	755.9	81	27.2	78	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.74	628.4	.....	.....	68	20.0	60	S	10	4.5	.....	10k	0	S	.....	0	0	Cloudy	
Leavenworth, Kansas	29.06	738.1	29.84	757.9	80	26.7	78	Calm	0	0	.....	2ck	0	S	.....	0	0	Clear	
Los Angeles, California	29.51	749.3	29.87	758.7	60	15.6	82	E	3	1.3	.....	.....	10s	Calm	Calm	0	0	Cloudy	
Louisville, Kentucky	29.38	746.2	29.90	759.4	87	30.6	65	SW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Lynchburg, Virginia	29.28	743.7	29.92	760.0	82	27.8	59	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.24	742.7	29.90	759.4	72	22.2	67	NW	4	1.8	.....	0	0	.....	.....	0.06	1.5	Clear	
Mason, Texas	28.29	718.6	29.94	760.5	82	27.8	63	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.69	754.1	29.98	761.5	86	30.0	65	E	2	0.9	.....	2c	Haze	NE	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.18	741.2	29.83	757.9	68	20.0	90	N	10	4.5	.....	.....	10s	.....	.....	0	0	Cloudy	
Mobile, Alabama	29.92	760.0	29.95	761.0	82.5	28.1	75	S	4	1.8	.....	1ck	8s	Calm	SE	0	0	Cloudy	
Montgomery, Alabama	29.76	755.9	29.98	761.5	80	26.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.93	734.8	29.91	759.7	83	28.3	71	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	24.72	602.5	30.08	764.0	64	12.2	100	NW	52	23.3	.....	.....	Fog	.....	NW	1.63	41 4	Foggy	
Nashville, Tennessee	29.19	749.0	30.00	762.0	78	25.6	86	NE	2	0.9	.....	.....	10s	.....	NW	Inap	Inap.	Cloudy	
New Haven, Connecticut	29.70	754.4	29.80	756.9	83	28.3	79	W	4	1.8	.....	5c	Haze	.....	.....	0	0	Fair	
New London, Connecticut	29.76	755.9	29.81	757.2	75	23.9	90	W	6	2.7	.....	5cs	2s;hz	N	Calm	0	0	Hazy	
New Orleans, Louisiana	29.86	758.4	29.91	759.7	82	27.8	79	NE	8	3.6	.....	2k	5ks	NE	NE	0.23	5.8	Fair	
Newport, Rhode Island	29.74	755.4	29.79	756.7	73	22.8	85	SW	4	1.8	.....	0	7ks	.....	.....	0	0	Fair	
New York, New York	29.69	754.1	29.86	758.4	77	25.0	86	W	12	5.4	.....	0	Haze	Calm	Calm	0	0	Clear	
Norfolk, Virginia	29.95	760.7	30.00	762.0	83	28.3	71	SW	12	5.4	.....	0	Haze	.....	.....	0	0	Clear	
North Platte, Nebraska	26.99	685.8	29.42	747.3	71	21.7	87	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.90	761.7	30.03	762.7	56	13.3	93	S	3	1.3	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Omaha, Nebraska	28.77	730.7	29.77	756.1	82	27.8	83	SE	4	1.8	.....	2k	0	S	.....	0	0	Clear	
Oswego, New York	29.54	750.3	29.84	757.9	78	25.6	82	NW	4	1.8	.....	8c	0	Calm	S	0	0	Fair	
Pembina, Dakota	29.05	737.9	29.84	757.9	65	18.3	89	E	8	3.6	.....	.....	10ks	.....	.....	0	0	Cloudy	
Philadelphia, Pennsylvania	29.84	757.9	29.88	758.9	79	26.1	73	W	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.66	728.0	.....	.....	89	31.7	50	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	17.99	456.9	30.20	767.1	39	3.9	31	SW	8	3.6	.....	0	0	.....	.....	0.14	3.6	Clear	
Pioche, Nevada	24.03	610.4	29.80	756.9	54	12.2	15	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.11	739.4	29.87	758.7	79	26.1	78	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.16	740.7	29.77	756.1	82	27.8	75	SW	6	2.7	.....	8ck	Sm'e	W	.....	0	0	Fair	
Portland, Maine	29.66	753.4	29.71	754.6	68	20.0	90	Calm	0	0	.....	2k	Haze	NW	.....	0.03	0.8	Fair	
Portland, Oregon	30.02	762.5	30.12	765.0	63	11.7	100	NW	1	0.4	.....	.....	Fog	.....	Calm	0.01	0.3	Foggy	
Prescott, Arizona	24.80	629.9	30.16	766.1	56	13.3	51	Calm	.....	.....	0	0	0	.....	.....	0	.0	Clear	

UNITED STATES SERIES.—Continued

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	29.96	761.0	29.98	761.5	80	26.7	82	W	5	2.2	.....	.....	10n	.....	S	0.50	12.7	Light rain	
Red Bluff, California	29.63	750.0	29.88	758.9	63	17.2	67	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.25	742.9	29.82	757.4	82	27.8	75	W	5	2.2	.....	2c	Haze	Calm	Calm	Inap.	Inap.	Fair	
Roseburg, Oregon	29.50	749.3	30.06	763.5	57	13.9	90	Calm	0	0	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
Sacramento, California	29.80	756.9	29.87	758.7	55	12.8	87	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.39	746.5	29.92	760.0	82	27.8	67	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.94	760.5	29.96	761.0	79	26.1	82	N	8	3.6	.....	5ck	2s	F	E	0	0	Fair	
St. Paul, Minnesota	29.10	739.1	29.89	759.2	70	21.1	79	E	5	2.2	.....	0	0	.....	.....	0.17	4.3	Clear	
Salt Lake City, Utah	25.66	649.2	29.89	759.2	65	18.3	35	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.20	741.7	29.76	755.6	78	25.6	86	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.82	757.4	29.89	759.2	63	17.2	83	NE	3	1.3	.....	.....	10s	.....	E	0	0	Cloudy	
Sandusky, Ohio	29.23	742.4	29.85	758.2	82	27.8	75	SW	10	4.5	.....	5ck	0	W	.....	0	0	Fair	
Sandy Hook, New Jersey	29.82	757.4	29.85	758.2	82	27.8	75	W	16	7.2	.....	.....	Haze	.....	Calm	0	0	Hazy	
San Francisco, California	29.85	758.2	29.91	759.7	55	12.8	87	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.32	592.3	29.86	758.4	59	15.0	70	Calm	0	0	.....	1cs	2s	Calm	Calm	0.10	2.5	Fair	
Savannah, Georgia	29.87	758.7	29.96	761.0	78	25.6	95	NE	4	1.8	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Shreveport, Louisiana	29.74	755.4	29.95	760.7	82	27.8	79	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.28	616.7	30.20	767.1	67	19.4	64	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Smithville, North Carolina	30.00	762.0	30.03	762.7	82	27.8	79	SE	9	4.0	.....	1cs	2ks	NE	SE	0	0	Fair	
Springfield, Massachusetts	29.61	752.1	29.73	755.1	82	27.8	79	S	1	0.4	.....	5c	0	NW	.....	0.23	5.8	Fair	
Stockton, Texas	26.85	682.0	29.85	758.2	72	22.2	45	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.68	753.9	29.73	755.1	75	23.9	86	NW	20	8.9	.....	5c	0	NW	.....	0	0	Clear	
Toledo, Ohio	29.18	741.2	29.80	756.9	87	30.6	65	W	8	3.6	.....	0	Haze	.....	Calm	0	0	Fair	
Tucson, Arizona	27.34	694.4	29.89	759.2	75	23.0	76	E	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.89	759.2	29.92	760.0	78	25.6	100	N	15	6.7	1	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.66	753.4	.....	.....	60	15.0	71	NW	4	1.8	.....	.....	10n	.....	NE	0.23	5.8	Light rain	
Vicksburg, Mississippi	29.75	755.6	30.00	762.0	82	27.8	67	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Virginia City, Montana	24.24	615.7	29.72	754.9	54	12.2	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.53	750.0	29.89	759.2	62	16.7	67	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.83	757.7	29.94	760.5	82	27.8	67	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	69	20.6	.....	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.93	760.2	30.00	762.0	78	25.6	86	Calm	0	0	.....	5k	2s	E	E	0	0	Fair	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	51	10.6	46	E	12	5 4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.74	755.4	29.79	756.7	71	21.7	90	SW	6	2.7	.....	.....	10s	.....	NW	Inap.	Inap.	Cloudy	
Yankton, Dakota	28.61	726.7	29.82	757.4	78	25.6	80	SE	6	2.7	.....	2cs	0	SW	.....	0	0	Fair	
Yuma, Arizona	29.62	752.3	29.77	756.1	85	29.4	29	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.78	756.4	29.83	757.7	69.0	20.6	77	NE	10	4.5	.....	5ck	2s	E	NE	1.00	25.4	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba. W. I	29.92	760.0	29.94	760.5	83	28.3	79	SE	4.8	2.1	.....	9c	0	W	.....	Blank	Blank	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.12	765.0	30.13	765.3	80	26.7	91	NE	3	1.3	.....	10c	8n	Calm	.....	0.32	8.1	.....	F. M. Everett.
Navassa, W. I	29.89	759.2	29.97	761.2	84	28.9	.....	E	19.6	8.8	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	82	27.8	83	E	.....	.....	2	4c	5k	E	.....	0	0	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medellin, Colombia, S. A	25.19	639.8	.....	.....	68.0	20.0	78	Calm	0	0	.....	4cs	1ks	.....	.....	0	0	.....	Thomas Herran

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,583 (?) ft., or 1,479.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,7 m.; Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,147.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,587 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,662.2 (?) ft., or 2,031.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,332 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	59	15.0	56	13.3	90	SW	6	2.7	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Navy Yard, Pensacola, Fla.	30.12	765.0	81	27.2	81	27.2	78	N	1	0.4	.....	.....	8	.....	SE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.99	761.7	82	27.8	81	27.2	74	W	1	0.4	.....	.....	5	.....	.....	0.1	3.	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.85*	758.2*	80	26.7	79	26.1	80	SW	.....	.....	5	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Apia, Samoan Islands	29.94	760.5	80	26.7	80	26.7	91	SE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	30.28‡	769.1‡	.....	.....	78	25.6	82	SW	.....	.....	0–1	.....	1	.....	SW	.....	.....	.....	.....	Misty.....	
Ashuelot, Nagasaki, Japan	29.96	761.0	81	27.2	80	26.7	96	SSW	.....	.....	4	.....	10	.....	SSW	.....	.....	.....	.....	Lightning...	
Alaska, S. 7° 12′, W. 34° 38′	30.18	766.6	79	26.1	76	24.4	82	SE	.....	.....	4	.....	4	.....	SE	0.7	18.	Mod'ate	SE	D. clouds.....	
Canonicus, New Orleans, La	30.02	762.5	57	13.9	80	26.7	82	N	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Colorado, New York, N. Y	29.87‡	758.7‡	.....	.....	79	26.1	78	SW	9	4.0	.....	.....	2	.....	SW	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	30.27‡	768.8‡	.....	.....	77	25.0	69	NNW	.....	.....	1	.....	3	.....	ENE	.....	.....	.....	.....	Hazy.....	
Despatch, Prince's Islands, Sea of Marmora	29.99‡	761.7‡	.....	.....	74	23.3	63	NNE	.....	.....	3	.....	5	.....	NNE	.....	.....	Smooth	.....	Fair.....	
Franklin, Norfolk, Va	30.14	765.5	79	26.1	78	25.6	82	SW	11	4.9	.....	.....	1	.....	Calm	0	0	.....	.....	Clear.....	
Gettysburg N. 34° 17′, E. 24° 26′	29.90‡	759.4‡	.....	.....	80	26.7	96	NW	.....	.....	2	.....	0	.....	.....	0	0	Mod'ate	NW	Clear.	
Hartford, Rio de Janeiro, Brazil	30.24	768.1	.....	.....	72	22.2	76	N	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	30.17	766.3	82	27.8	84	28.9	54	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Buffalo, N. Y	29.50	749.3	81	27.2	80	26.7	87	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.82‡	757.4‡	.....	.....	79	26.1	86	SW	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C	30.16†	766.1†	.....	.....	80	26.7	91	ENE	15	6.7	.....	.....	8	.....	S;E	0.002	0.05	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	61	16.1	82	N	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.85	758.2	86	30.0	80	26.7	87	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Mare Island, California	30.01	762.2	65	18.3	57	13.9	94	SSW	5	2.2	.....	.....	2	.....	N	.....	.....	.....	.....	Clearing.....	
Plymouth, New York, N. Y	29.98‡‖	761.5‡‖	.....	.....	78	25.6	86	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger, Hong-Kong, China	30.01*	762.2*	.....	.....	87	30.6	83	S	.....	.....	0–1	.....	5	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.84	757.9	76	24.4	76	24.4	95	NW	.....	.....	1	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md	29.92‡	760.0‡	.....	.....	81	27.2	66	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	29.90	759.4	80	26.7	80	26.7	74	WSW	12	5.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, Havre, France	30.38	771.6	76	24.4	78	25.6	73	N	.....	.....	0–1	.....	8	.....	.....	.....	.....	.....	.....	Hazy.....	
Swatara, Boston, Mass	29.76‡	755.9‡	.....	.....	78	25.6	95	W	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Trenton, N. 40° 39′, E. 5° 31′	30.14‡	765.5‡	.....	.....	82	27.8	87	SSW	.....	.....	1–2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico	29.88	758.9	80	26.7	79	26.1	82	E	.....	.....	1	.....	10	.....	Calm	1.6	41.	.....	.....	Cloudy.....	
Vandalia, Beirut, Syria	29.72‡	754.9‡	.....	.....	84	28.9	71	SW	.....	.....	3	.....	2	.....	SW	.....	.....	Long	W	Clear.....	
Wabash, Boston, Mass	29.70‡	754.4‡	.....	.....	80	26.7	78	W	6	2.7	.....	.....	2	.....	Calm	0.05	1.3	.....	.....	Fair.....	
Wyoming, N. 48° 27′, W. 43° 15′	29.80	756.9	62	16.7	55	12 8	87	N	.....	.....	5	.....	9	.....	N	.....	.....	Mod'ate	N	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co.peration of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Hong-Kong, China.		29.90*	759.4*	65	29.4	100	SSW			2		3		S	0			Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 30° 13′, W. 141° 42′		30.61‡	774.9‡	71	21.7	100	NE			5		5		NE	0	Mod'ate	NNE	Cloudy	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 44° 56′ E. 167° 50′		29.57*	751.1*	53	11.7	80	SSW			6		Fog		SW	Blank	Short sea	SSW	Foggy	Capt. W. H. Kidley.
S. S. Oceanic, N. 24° 03′, E. 118° 23′		29.53	750.0	73	22.8	95	SW			3		8		WSW		Smooth		D. clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 42° 59′, W. 59° 58′		30.34*	770.6*	62	16.7	??	S			6		9		S	0	Mod'ate	SW	Cloudy	Captain Sargent.
S. S. Ohio. N. 46° 15′ W. 38° 28′		30.00	762.0	60.5	15.8	97	NNE			5		10		NNE	Heavy	Small Confused.		Misty	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.43†	772.9†	79	26.1	100	NNE			1		4		NNE	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 49° 18′, W. 16° 45′		30.42*	772.7*				NE	18	8.0			9		NE		Slight	NW	Misty	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 65° 22′, W. 64° 53′		30.17*	766.3*	35.0	1.7	92	Calm			0	0	0			0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, *fracto*, *pallio*, *haze*, *fog* and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 19, 1878.

7:33 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.11	764.7	69.8	21.0	82	NE	.....	.....	2	.....	3	.....	.....	0	0	Pretty fair..	Dr. Ollive.
Nemours	.....	.....	30.08	763.9	81.7	27.6	69	NE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	Michel.
Algiers	.....	.....	30.01	762.3	82.0	27.8	71	N	.....	.....	2	.....	1	.....	.....	0	0	Very fair....	Tourillere.
La Calle	.....	.....	30.06	763 4	79.3	26.3	81	ENE	.....	.....	4	.....	3	.....	.....	0	0	Pretty fair..	Foufrede.
Tunis	.....	.....	30.02	762.5	93.4	34.1	.....	E	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	Jacques.
Sfax	.....	.....	30.15	765.7	93.2	34.0	.....	E	.....	.....	3	.....	1	.....	.....	0	0	Very fair....	Gau.
Saida	.....	.....	30.10	764.6	95.0	35.0	24	N	.....	.....	1	.....	4	.....	.....	0.012	0.3	Cloudy.....	Herbin.
Tebessa	.....	.....	30.07	763.6	95.9	35.5	21	NW	.....	.....	3	.....	1	.....	.....	0	0	Very fair....	Watrin.
Geriville	.....	.....	30.13	765.4	102.2	39.0	.....	E	.....	.....	7	.....	4	.....	.....	0	0	Cloudy.....	Brugnlaux.
Laghouat	.....	.....	30.11	764.9	106.2	41.2	24	NNW	.....	.....	3	.....	2	.....	.....	0	0	Fair.....	Bertrand.
Biskra	.....	.....	30.11	764.8	105.4	40 8	.....	ESE	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.																			
Agram	29.46	748.2	29.98	761.4	83.3	28.5	51	SW	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. Ivan Stossi
Cracow	29.17	740.9	29.91	759.6	64.2	17.9	77	W	.....	.....	3	.....	10	.....	.....	0.187	4.76	.....	Prof. Dr. Karlinski.
Eperies	28.99	736.3	29.83	757.6	72.7	22.6	60	NW	.....	.....	5	.....	9c;s	.....	SE	0.126	3.20	.....	Julius Mikolik.
Gratz	28.70	731.2	29.98	761.4	76.6	24.8	58	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.48	723.3	29.86	758.4	66.4	19.1	74	NW	.....	.....	1	.....	10	.....	.....	0.033	0.85	Raining.....	Prof. Reissenberg
Kremtmünster	28.69	728 8	29.98	761.5	73.8	23 2	62	WNW	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.77	730.7	29.72	755 0	64.4	18.0	83	NW	.....	.....	2	.....	10	.....	.....	0.465	11.8	.....	Dr. T. Stanecki.
Pola	29.05	760.6	30.06	763.4	83.1	28 4	46	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.43	747.4	29.87	758.8	69.1	20.6	82	SW	.....	.....	3	.....	8	.....	.....	0.386	9.8	Rainy.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vienna	29.08	761.4	30.08	764.0	82.4	28.0	52	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	P. Busin.
.....	29.32	744.6	30.00	761.9	78.4	25.8	48	NW	.....	.....	3	.....	5	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.																			
Arlon	28.76	730.4	30.21	767,4	73.0	22.8	60	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	30.04	763.0	30.23	767,9	76.8	24.9	56	E	.....	.....	3	.....	1	.....	E	0	0	.....	Royal Observatory.
Furnes	30.27	768,8	30.29	769,4	70.2	26.2	69	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.15	765,8	30.28	769,0	73.4	23.0	76	N	.....	.....	2	.....	4	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.14	765.5	30.24	768.1	64.7	18.2	.....	ESE	8	3.6	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.30	769.6	30.32	770.1	65	18.3	.....	W	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds..	George Carrick.
Armagh, Observatory	.....	.....	30.34	770.6	71.3	21.8	.....	NNW	3	1.3	.....	.....	7	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.30	769.6	68.0	20.0	.....	WNW	7	3.1	.....	.....	1	.....	.....	.....	.....	Blue sky....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.30	769.6	75.0	23.9	.....	NNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.57	758.7	30.26	768.6	77.4	25.2	.....	E	.....	.....	1	.....	3	.....	.....	0	0	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.98	761.5	83.5	28.6	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.26	768.6	83.0	28.3	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.26	768.6	83.0	28.3	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.14	765.5	30.26	768.6	77.2	25.1	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Hazy.....	Lt. W. G. Morris, R. E.
Dartmoor	28.71	729.2	30.11	764.8	74.0	23.3	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.30	769.6	30.33	770.4	65	18.3	.....	NNE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.24	768.1	30.26	768.6	68	20.0	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Clear.....	J. Costello.
Eccles, (near Manchester)	.....	.....	30.28	768.6	76.8	24.9	.....	NW	1.8	0.8	.....	.....	.....	.....	.....	.....	.....	Blue sky....	Thomas Mackereth.
Falmouth, Observatory	30.02	762.5	30.24	768 1	71.6	22.0	.....	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	Hazy	The Staff.
Fort Napier, (Natal)	27.36	694.9	29.86	758.4	67.0	19.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.85	758.2	30.08	764.0	83	28.3	.....	N	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.26	768.6	76	24.4	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.03	762.7	30.08	764.0	79.7	26 5	.....	W	.....	.....	2	.....	0?	.....	.....	.....	.....	Overcast?....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.09	764.3	30.30	769.6	71.6	22.0	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	P. G. Maclean.
Great Yarmouth	30.25	769.1	30.29	769.4	69	20.6	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	30.08	764.0	30.25	768.3	82.5	28.1	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	The Staff, for G. B. Airy.
Guernsey	30.00	762.0	30.21	767.3	70	21.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.32	770.1	76	24.4	.....	SE	.....	.....	4	.....	0	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.26	768.6	30.31	769.9	65	18.3	.....	N	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.94	760.5	30.22	767.6	77.2	25.1	.....	ENE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	J. Fisher.
Kew, Observatory	.....	.....	30.25	768.3	80.5	26.9	.....	ESE	10	4.5	.....	.....	.....	.....	.....	.....	.....	Hazy.....	The Staff.
Kingstown	30.33	770.4	30.35	770.9	65	18.3	.....	NNE	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast....	George Mitchell.
Leicester, Museum	.....	.....	30.25	768.3	81.0	27.2	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.02	762.5	30.10	764.5	80.4	26.9	.....	E	.....	.....	1	.....	1k	.....	.....	.....	.....	D. clouds....	Sgt. Hewitt, A. H. C.
Nairn	30.12	765.0	30.21	767.3	75	23.9	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.05	763.3	81.0	27.0	.....	SE	.....	.....	0	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	30.08	764.0	30.26	768.6	83.2	28.4	.....	SE	.....	.....	3	.....	4k	.....	ENE	0	0	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.75	755.6	30.25	768.3	77.9	25.5	.....	NE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.27	768.8	81	27.2	.....	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	H.E. Bellamy.
Plymouth	30.17	766.3	30.24	768.1	79.0	26.1	.....	SE	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	30.26	768.6	30.30	769.6	73	22.8	.....	E	.....	.....	4	.....	2	.....	.....	.....	.....	Fine	W. Kennedy.
Saint Ann's Head	30.10	764.5	30.25	768.3	70	21.1	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	Hazy.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.21	767.3	57.4	14.1	.....	SW	24	10.7	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.86	758.4	75.0	23.9	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	Sergt. W. H. Lyne.
Sheffield	30.02	762.5	30.29	769.4	80.8	27.1	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.26	768.6	30.29	769.4	84.0	28.9	.54	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.99	761.7	30.39	771.9	77.4	25.2	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	30.18	766 6	30.21	767.3	63	17.2	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	30.04	763.0	30.25	768.3	61.9	27.7	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Foggy	Rev. C. H. Griffith, F.M.S.
Thurso	.....	.....	30.21	767.3	62	16.7	.....	WNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	30.28	769.1	81	27.2	.....	SE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.26	768.6	76.3	24.6	.....	N	5	2.2	.....	.....	6	.....	.....	.....	.....	D. clouds....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.39	746.5	51 0	10.6	86	W	.....	.....	1	.....	10k	.....	.....	0.15	3.8	Light rain..	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.9	68.2	20.1	79	E	18.5	8.3	.....	4	6	.....	ESE	0.04	1.0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.45	748.0	29.54	750.3	51.8	11.0	92	WNW	5	2.2	.....	.....	10	.....	.....	0.12	3.0	Threatening	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngerause.
North Uns, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Uist as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 46° 5′, W. 45° 15′	.....	.....	30.16	766.1	57	13.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	Smooth	Blue sky.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 48° 35′ W. 48° 45′	.....	.....	30.05	763.3	54	12.2	.....	SSE	.....	.....	3	.....	2	.....	.....	2	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	(R.
S. S. Peruvian, N. 55°, 50′ W. 31° 50′	.....	.....	30.18	766.6	57	13.9	.....	NW	.....	.....	2	.....	5	.....	.....	2	S	D. clouds....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 57° 40′, W. 49° 25′	.....	.....	29.78	756.4	46	7.8	.....	NNW	.....	.....	3	.....	10	.....	.....	3	S	Foggy.....	Capt. Alex. Simpson.
Barque Virginia, N. 49° 50′, W. 22° 40′	.....	.....	30.38	771.6	65	18.3	.....	NE	.....	.....	1	.....	10	.....	.....	1	SE	Overcast....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.

Note.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San Jose	26.21	665.7	.....	.....	69.8	21.0	89	SE	.....	.....	1	1c	1c	.....	.....	0	0	.....	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.82	757.4	29.87	758.6	64.8	18.2	58	NW	.....	.....	7	.....	5	.....	.....	.....	.....	.....	
Farôe	30.03	762.8	30.05	763.3	62.4	16.9	70	NW	.....	.....	7	.....	9	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.91	759.6	29.95	760.7	45.5	7.5	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	29.78	756.1	29.77	756.2	53.2	11.8	84	SW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	Raining
Thorshavn, (Farôe)	29.98	761.5	30.02	762.4	55.9	13.3	88	W	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Rain and fog
Vestervig	29.80	756.8	29.97	761.1	62.6	17.0	74	NW	.....	.....	7	.....	5	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.68	753.8	30.23	767.8	73.4	23	51	NE	.....	.....	2	.....	2	.....	SE	0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.15	765.7	30.26	768.4	82.4	28.0	62	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear.	Bonvallet, Director.
Avignon, Normal School	29.97	761.2	30.05	763.2	92.8	33 8	36	NNE	.....	.....	1	.....	0	.....	.....	0	0	Very clear...	Mr. Giraud, Director.
Bar-sur-Seine	29.60	751.9	30.14	765.5	82.0	27.8	48	E	.....	.....	2	1c	.....	E	.....	0	0	Clear	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.96	760.9	30.23	767.9	76.1	24.5	55	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Normal School.
Besançon	29.29	743.9	30.13	765.4	81.5	27.5	61	NE	.....	.....	6	.....	0	.....	.....	0	0	Clear	Normal School.
Bourg-en-Bresse	29.24	742.7	30.18	766.6	86.0	30	48	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Normal School.
Bourges, Normal School	29.73?	755.2?	30.31?	769.9?	83.8	28.8	28	NE	.....	.....	6	.....	.....	.....	NE	0	0	.....	A. Wagner, Director.
Brest, Naval Observatory	29.85	758.1	30.09	764.8	83.5	28.6	63	NE	.....	.....	2	.....	1	.....	NE	0	0	.....	The Staff.
Carcassonne, Normal School	29.62	752.4	30.01	762.2	99.3	37.4	26	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.62	752.3	30.17	766.2	82.9	28.3	76	E	.....	.....	2	.....	2	.....	W	0	0	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29 91	759.8	30.22	767.6	81.0	27.2	54	NE	.....	.....	2	.....	2k	.....	.....	0	0	Slightly cl'dy	T. Leloup, Director.
Clermont-Fd., Puy de D.Obs	29.78	730.9	30.04	763.1	87.4	30.8	34	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Allnard, Director.
Commercy, Normal School	29.84	745.3	30.19	766.8	75.9	24.4	66	N	.....	.....	4	.....	1	.....	.....	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.00	736.7	30.15	765.7	91.9	33.3	31	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.89	759.2	30.09	764.3	90.7	32.6	41	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.83	757.7	30.12	765.1	84.0	28.9	48	E	.....	.....	4	.....	2	.....	E	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.09	738 8	29.95	760.7	80.4	26.9	54	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	30.02	762.6	30.12	765.1	86.4	30.2	48	ENE	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Carré, Director.
Mâcon, Normal School	29.43	747.4	30.08	764.9	81.1	27.3	67	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Galzin, Director.
Mirecourt	29.13	739.8	30.13	765.3	72.3	22.4	63	NNE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Normal School
Nismes, Normal School	29.84	757.9	30.03	762.7	99.0	37.2	23	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Orleans, Normal School	29.78	756.3	30.14	765 6	85.1	29.5	49	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bernard, Director.
Paris, Observatory	29.95	760.7	30.18	766 5	80.1	26.7	55	ENE	.....	.....	1	.....	8	.....	E	0	0	Very cloudy	National Observatory.
Privas	29.11	739.5	30.12	765.1	86.0	30	33	N	.....	.....	6	.....	1	.....	N	0	0	Clear	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Allnard, Director.
Rochefort, Naval Obs'y	30.03	762.8	30.07	763.6	92.5	33.6	29	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.13	765.4	30.22	767.5	83.2	27.9	41	NE	.....	.....	2	.....	0	.....	.....	0	0	Clear	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.02	737.1	30.04	762.9	86.0	30	59	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.39	746.5	30.07	763.8	78.8	26	59	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.93	760.1	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.24	6.	.....	L'Abbé Marchési.
Lyons	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Jays.
Marseilles, Observatory	.....	.....	30.06	763.5	82.9	28.3	55	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Staff.
Mont-Louis	25.12	638.0	30.43	773.0	80.6	27.0	31	SSW	3.7	1.67	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	30.14	765.6	79.7	26.5	73	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.91	759.6	30.18	766.6	81.0	27.2	57	NNE	.....	.....	2	.....	5	.....	NE	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	30.07	763.6	90 3	32.4	34	SE	14.9	6.66	.....	.....	0	.....	.....	0	0	.....	Dr. Pinos.
Pic du Midi. (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.84	580.1	.....	.....	71.8	22.1	.....	S	.....	.....	1	2	.....	.....	.....	0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	30.02	762.4	30.18	766.6	82.0	27.8	61	ENE	.....	.....	2	4	.....	.....	ENE	0	0	.....	E. Renou.
Toulouse, Observatory	29.37	746.0	30.10	764.5	94.0	33.9	30	SE	.....	.....	1	1	.....	.....	.....	0.008	0.20	.....	The Staff.
Tours	29.91	759.8	30.11	764.8	87.8	31.0	41	E	.....	.....	4	0	.....	.....	.....	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.20	767.0	83.1	28.4	44	E	.....	.....	2	3	.....	.....	.....	0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.78	756.4	29.80	757.0	74.5	23.6	96	SSE	4.7	2.1	.....	0	.....	.....	.....	0.185	4.7	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 6:50, instead of 6:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.31	744.5	30.16	766.0	77.5	25.3	55	W	.....	.....	6	.....	7	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.84	757.8	30.00	762.0	70.9	21.6	67	W	.....	.....	3	.....	6	.....	.....	0.012	0.3	.....	Prof. Arndt.
Breslau	29.49	749.1	30.02	762.6	62.8	17.1	81	NW	.....	.....	3	.....	10	.....	.....	Inap.	Inap.	.....	Royal University Obs'y
Carlsruhe	29.74	755.5	30.16	766.0	78.8	26.0	64	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Albert Senz.
Cassel	29 62	752.3	30.23	767.8	74.6	23.6	65	NNW	.....	.....	5	.....	7	NW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	30.08	764.0	30.24	768.1	75.2	24.0	60	N	.....	.....	1	.....	3k	.....	.....	0	0	.....	Director Lose.
Emden	30.12	765.0	30.16	766.0	72.3	22.4	69	NW	.....	.....	2.5	.....	4	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.89	759.1	30.24	768.0	78.4	25.8	.....	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.73	729.8	30.10	764.5	79.5	26.3	53	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	30.04	763.1	30.11	764.9	61.2	16.2	79	NW	.....	.....	6	.....	6k	.....	.....	0	0	Fair	Captain F. Hegemann.
Kiel	30.04	762.9	30.05	763.3	66.4	19.1	69	W	.....	.....	6	.....	4	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.94	760.9	29.72	754.9	68.9	20.5	65	W	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. E Luther.
Köslin	.....	.....	29.93	760.2	63.1	17.3	.....	NW	.....	.....	6	.....	2	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.71	754.6	30.12	765.0	71.5	22.1	62	NW	.....	.....	5	.....	8	WNW	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.67	753.7	29.72	754.9	65.3	18.5	60	NW	.....	.....	4	.....	9ks	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.75	755.7	29.77	756.1	68.4	20.2	55	NW	.....	.....	5	.....	7	WNW	.....	0.035	0.9	Squally	A. Lothes.
Posen	29.69	754.1	29.97	761.3	66.2	19.0	72	NW	.....	.....	8	.....	9	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.65	753.1	30.18	766.5	78.4	25.8	54	NNE	.....	.....	3	.....	0	.....	.....	0	0	.....	Astronomical Observatory.
Stuttgart	29.27	743.4	30.17	766.4	77.9	25.5	48	NE	.....	.....	1	.....	2	N	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.56	750.8	30.08	764.1	78.1	25.6	50	NE	.....	.....	2	.....	0	.....	.....	0	0	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.69	728.8	30.14	765.6	75.0	23.9	57	W	2	1	.....	.....	5ck	.....	NW	0	0	.....	Dr. Von Bebber.
Wustrow, Naval School	29.98	761.4	30.02	762.4	64.2	17.9	69	WNW	.....	.....	4	.....	2	.....	.....	0	0	.....	E. F. Schütz.
German Naval Series.																			
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.2	29.95	760.6	85.3	29.6	.....	NE	.....	.....	1.5	.....	.....	.....	.....	.....	.....	⅛ Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.44	747.9	29.49	749.1	88.7	31.5	69	WSW	37?	16.5?	.....	.....	1	.....	.....	0	0	D. clouds	.....
Deesa	29.06	738.0	29.51	749.6	95.3	35.2	56	E	.....	.....	.....	.....	10	.....	E	1.04	26.4	Overcast	.....
Bombay	29.58	750.0	29.56	750.9	84.1	28.9	87	SW	8	3.6	.....	.....	10	.....	SW	0.02	0.5	Overcast	.....
Poona	27.62	701.5	29.62	752.3	75.3	24.1	81	S	.....	.....	.....	.....	10	.....	S	0.79	20.1	Thunder-storm	.....
Lahore	28.70	728.9	29.40	746.6	103.2	39.6	42	E	3.0	1.3	.....	.....	0	.....	.....	0	0	Misty	.....
Belgaum	27.15	689.5	29.69	754.1	71.9	22.2	90	W	22	9.8	.....	.....	10	.....	W	0.05	1.3	Showery	.....
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.56	725.3	29.42	747.4	90.8	32.7	62	Calm	5.1	2.3	.....	.....	0	.....	.....	0	0	.....	.....
Agra	28.87	733.2	29.40	746.8	101.6	38.7	49	NW	.....	.....	.....	.....	.....	.....	.....	0	0	.....	.....
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.50	723.9	29.52	749.9	84.3	29.1	81	E	2.1	0.9	.....	.....	10	.....	W	0	0	Gloomy	.....
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	29.10	739.1	29.45	748.1	96.6	35.9	52	N	2.3	1.0	.....	.....	10	.....	.....	0	0	Overcast	.....
Allahabad	29.15	740.3	29.44	747.8	97.7	36.5	57	E	1.8	0.8	.....	.....	10	.....	W	0	0	Thunder	.....
Patna	29.34	745.4	29.52	749.6	89.4	31.9	66	E	0.8	0.4	.....	.....	10	E	E	0	0	Overcast	.....
Hazaribagh	27.68	700.6	29.58	751.3	78.0	25.6	89	SSW	7.4	3.3	.....	.....	10	.....	.....	1.67	39.9	Thunder-storm	.....
Cuttack	29.47	748.5	29.65	750.5	87.1	30.6	80	ESE	1.8	0.8	.....	.....	3	.....	.....	0.15	3.8	D. clouds	.....
Calcutta (Alipore)	29.55	750.6	29.57	751.2	86.1	30.1	80	S	3	1.3	.....	.....	5	S	S	0	0	D. clouds	.....
Goalpara	29.18	741.1	29.56	750.9	80.8	27.1	92	Calm	2.3	1.0	.....	.....	9	S	.....	0	0	D. clouds	.....
Chittagong	29.67	751.1	29.66	753.4	83.5	28.6	87	SE	5.3	2.4	.....	.....	9	.....	.....	.....	.....	Raining	.....
Sibsagar	29.25	743.0	29.58	751.3	85.2	29.6	79	SSW	5.2	2.3	.....	.....	10	W	W	0.70	17.8	Overcast	.....
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.21	716.5	29.55	750.6	85.6	29.4	69	SW	2.6	1.2	.....	.....	8	.....	.....	0	0	Overcast	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,959 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimetrs.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.0	30.08	764.0	52.8	28.2	53	W	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.95	760.8	30.06	763.5	82.6	28.1	47	SSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.86	758.4	30.04	763.1	86.2	30.1	38	SW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.78	731.1	30.05	763.2	85.6	29.8	42	SW	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.55	750.6	30.04	763.1	87.8	31.0	.....	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.17	740.9	30.03	762.8	84.7	29.3	44	SSW	3.1	1.4	1	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.20	716.2	30.02	762.4	81.9	27.7	51	NNW	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.89	759.3	30.11	764.8	81.1	27.3	59	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.93	760.2	30.10	764.4	81.0	27.2	53	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.74	755.5	30.04	763.1	84.4	29.1	37	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.82	757.3	30.07	763.6	89.8	32.0	24	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	30.00	762.0	30.08	764.0	82.4	28.0	52	SW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.02	762.5	30.07	763.7	79.5	26.4	54	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.59	726.1	30.08	763.9	81.7	27.6	32	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	30.00	762.0	30.11	764.7	81.7	27.6	44	ENE	.....	.....	4	.....	2	.....	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.93	760.1	30.10	764.4	88.3	31.3	39	W	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.89	759.3	30.09	764.2	83.2	28.2	28	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	78.6	25.9	34	N	24.8	11.1	.....	.....	5	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.89	759.1	30.07	763.8	83.5	28.6	55	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.20	741.7	30.04	762.9	85.3	29.6	59	NW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.88	758.9	30.12	765.1	81.1	27.3	42	E	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.93	760.2	30.00	762.1	84.9	29.4	53	SW	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.55	750.6	30.11	764.7	84.2	29.0	40	NE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.68	753.9	29.88	758.9	75.2	24.0	85	SSE	6.6	2.9	.....	.....	10n	.....	.....	0.735	18.67	Light rain...	I. Arai, Director.
Tokei (Yeddo) Observatory	29.85	758.2	29.92	759.9	77.8	25.4	80	SSW	16.6	7.4	.....	.....	7ks;s	.....	.....	0	0	Fair.....	
Tokei (Yeddo) University	29.81	757.2	29.90	759.6	78.6	25.8	89	SW	20	8.9	.....	.....	8ks	.....	.....	0	0	Cloudy.....	Prof. P. V. Veeder
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascallentes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	65.6	18.7	83	S	0.9	0.4	.....	9clc	1s	NNE	.....	0.13	3.2	Covered.....	L. Castillo, A. E.
Guadalajara	25.01	635.2	29.96	761.0	57.2	14.0	83	S	0.9	0.4	.....	0	3	.....	S	0	0	Clear.....	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.6	18.1	77	SE	0.9	0.4	.....	0	0	.....	.....	0	0	Fair.....	Prof. M. Leal.
Mexico	23.08	586.3	30.05	763.4	68.1	14.5	76	Calm	0	0	.....	0	10lc	.....	.....	0	0	Covered.....	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.5	17.5	81	NW	1.8	0.8	.....	0	0	.....	.....	0.04	1.1	Fair.....	M. V. de Leon, M. E.
Puebla	23.32	592.3	29.96	760.9	67.9	14.4	87	E	2.7	1.2	.....	5clc	5lc	.....	.....	0.36	9.1	Cloudy.....	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.84	757.8	29.85	758.1	79.7	26.5	80	SW	1.8	0.8	.....	0	10n	.....	NW	0	0	Dark.....	Prof. F. R. Bayly.
San Luis Potosi	24.17	614.1	30.06	763.4	66.0	18.9	.....	E	0.9	0.4	.....	10	0	E	.....	0	0	Covered.....	G. Barreda, M. D.
Vera-Cruz	29.89	759.2	29.92	759.7	79.7	26.5	89	WNW	5.1	2.3	.....	3clc	3slc	SE	.....	0.69	17.4	½ cloudy.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	82	NNE	1.8	0.8	.....	3	5	.....	.....	0.41	10.5	Cloudy.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.7	30.00	762.0	55.4	13.0	84	NE	.....	.....	.....	3	1	.....	.....	0 55	14.0	½ cloudy.....	Prof. P. Spina, [M.M. D. D.
Morelia	24.04	610.5	.....	.....	66.2	19.0	59	ESE	.....	.....	.....	0	3lc	.....	E	0	0	Clear.....	M. Tena, F. L. Paramo,
Durango	24.28	616.8	30.09	764.3	68.6	20.0	83	NNW	0.9	0.4	.....	1lc	0	NE	.....	0	0	Clear.....	M. V. de Leon, C. E.
Colima	28.31	719.0	29.93	760.1	79.3	26.3	86	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.....	R. Banda, C. E.
San Juan E. Mirhapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The elevation of Aguascallentes, is 1,851 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,803 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,949 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.32	770.0	30.32	770.0	70.1	24.5	.....	NE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Groningen	30.19	766.9	30.25	768.3	68.9	20.5	.....	NNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.26	768.7	30.26	768.7	67.1	19.5	.....	WSW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.27	768.8	30.27	768.8	70.6	21.8	63	W	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.23	767.9	30.28	769.1	75.4	24.1	63	N	.....	.....	2	.....	8	.....	.....	0	0	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.96	761.0	30.02	762.4	55.4	13.0	82	NNW	18.3	8.2	.....	.....	8	.....	.....	0.244	6.2	.....	
Brönö	29.78	756.5	29.82	757.5	52.2	11.2	73	NNW	18	8	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.58	751.3	29.72	754.8	74.8	23.8	36	WNW	13	6	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.65	753.1	29.69	754.2	50.7	10.4	70	W	4	2	.....	.....	10	.....	.....	0.079	2.0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.13	765.2	30.32	770.0	72.9	22.7	81	ESE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.14	740.2	30.11	764.8	85.1	29.5	28	W	10.5	4.7	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.21	767.2	30.29	769.4	74.7	23.7	63	SW	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.84	758.0	30.19	766.9	75.9	24.4	50	NNW	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.30	769.5	30.37	771.3	77.7	25.4	57	S	0.7	0.3	.....	.....	4	.....	.....	0.256	6.5	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Dantas, Com'd't.
Quanza, S. 8° 49′, E. 13° 08′	.....	.....	30.01	762.3	69.6	20.9	.....	WNW	.....	.....	2	.....	10	.....	WNW	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	29.81	757.2	84.2	29.0	.....	NNE	.....	.....	5	.....	0	.....	.....	2	NNE	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	30.03	762.7	80.6	27.0	.....	NE	.....	.....	3	.....	9	.....	S	2	NE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.01	762.3	69.6	20.9	.....	WNW	.....	.....	2	.....	10	.....	.....	1	.....	Misty	F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.38	746.3	29.79	756.7	64.2	17.9	75	WNW	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.20	741.7	29.60	751.9	65.7	18.7	58	NW	7	3	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.30	744.3	29.54	750.2	64.6	18.1	66	NW	9	4	.....	.....	9n;k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.41	747.0	29.43	747.4	68.7	20.4	69	WNW	16	7	.....	.....	4k	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.95	735.4	29.56	750.8	68.2	20.1	68	WNW	9	4	.....	.....	7km	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.67	753 5	29.74	755.3	75.9	24.4	52	W	18	8	.....	.....	7km	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.79	756.6	29.81	757.1	72.7	22.6	90	S	9	4	.....	.....	5	.....	.....	.....	.....	Heavy clouds	Lagorio.
Moscow	28.82	732.1	29.34	745.3	67.1	19.5	80	NW	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.30	744.3	29.50	749.3	74.8	23.8	52	WSW	22	10	.....	.....	6	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.42	747.2	29.44	747.7	75.2	24.0	43	ENE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.43	722.1	29.76	755.8	86.5	30.3	25	Calm	0	0	.....	.....	8c	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.83	757.7	29.75	755.6	85.3	29.6	33	SW	16	7	.....	.....	2k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.07	738.3	29.32	744.8	63.3	17.4	89	S	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.60	726.4	29.50	749.3	68.9	20.5	76	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.34	745.2	29.55	750.6	89.8	32.1	57	NNW	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.13	714.5	29.09	754.0	94.3	34.6	42	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.17	740.9	29.65	753.0	90.3	32.4	31	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.43	747.5	29.71	754.5	75.9	24.4	80	SW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.49	749.1	29.63	752.7	88.0	31.6	43	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory. Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 892 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.95	760.7	30.05	763.2	86.9	30.5	59	S	1.4	0.61	.....	3c;ck	.....	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.04	763.1	30.10	764.5	77.0	25.0	74	NW	2.9	1.28	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.20	690.9	.....	.....	90.9	32.7	39	SW	3.7	1.64	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.90	708.7	29.96	760.9	97.7	36.5	17	SW	13.4	6.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.89	759.1	30.03	762.7	96.6	35.9	49	SSE	3.2	1.42	.....	.....	.....	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.27	743.4	30.15	765.7	68.9	20.5	78	SW	5.7	2.53	.....	.....	10	.....	.....	0	0	Foggy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760,8	30.02	762.5	81.1	27.3	74	ESE	2.7	1.2	.....	10ck	1k	E	.....	0.024	0.6	Cloudy	Benito Vines, S. J. Federico Faura, S. J.
Manilla, Philippine Islands, Sao Fernando, Naval Obs'y	30.07	763.7	30.16	766.1	78.3	25.7	62	WSW	10.6	4.7	.....	0	4	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	760.0	30.01	762.3	84.9	29.4	78	E	11.8	5.26	.....	2c	2kn	E	E	0	0	Clear.	Leonardo de Tejada, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.67	751.0	29.61	752.0	64.6	18.1	.....	N	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.61	752.2	29.67	753.5	64.4	18.0	55	SSW	.....	.....	2	.....	9	.....	.....	0.012	0.3	.....	
Hernosand	29.61	752.0	29.66	753.3	59.7	15.4	49	WNW	.....	.....	6	.....	5	.....	.....	0.020	0.5	Raining	
Stockholm	29.53	750.1	29.71	754.6	57.6	14.2	74	Calm	.....	.....	0	.....	9	.....	.....	0.098	2.5	Raining	
Wisby	29.59	751.5	29.65	753.0	67.3	19.6	63	SSW	.....	.....	6	.....	10	.....	.....	0.008	0.2	.....	
Sub-Series.																			
Upsala	29.61	752.2	29.69	754.1	60.8	16.0	69	WNW	3.8	1.7	.....	.....	9	NNW	N	0.059	1.49	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.74	729.9	30.09	764.3	79.2	26.2	54	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.55	725.2	30.10	764.6	81.3	27.4	53	E	.....	.....	2	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.2 mm.; Thermometer, +3.6 cent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.92	760.0	74.1	23.4	55	N	3	1.5	.....	.....	8	.....	NNE	0.945	24.0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.14	765.5	82.0	27.8	.....	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.66	753.4	29.77	756.2	89.1	31.7	51	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.60	751.8	29.67	753.6	65.0	18.8	73	N	8	3.6	.....	1k	0	.....	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	29.54	750.3	29.83	757.7	78	25.6	.....	SW	1	0.4	.....	0	0	.....	.....	0.02	0.5	Clear	W. R. Bigg.
*Chatham, N B	29.63	752.6	29.69	754.1	62	16.7	77	NW	9	4.0	.....	8k	2ks	W	W	0.11	2.8	Fair	G. A. Blair.
Charlottetown, P. E. Island.	29.59	751.6	29.63	752.6	61	16.1	89	NW	4	1.8	.....	.....	10ks	.....	NW	0.450	11.43	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.63	752.6	29.81	757.2	75.5	24.2	79	W	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.58	750.0	29.69	754.1	63	17.2	84	W	.....	.....	1	.....	.....	.....	.....	0.7	18.	Clear	H. A. Johnson.
Esquimault, B. C	29.94	760.5	29.99	761.7	51.3	10.7	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.72	754.9	29.74	755.4	50	10.0	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	J. McWilliams.
Fredericton, N. B	29.68	753.9	29.75	755.6	64.0	17.8	78	NW	7	3.1	.....	1ck	3ks	NW	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.01	736.8	29.81	757.2	62	16.7	94	W	6	2.7	.....	2c	2s	W	W	0.920	23.37	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.89	733.8	29.94	760.5	72	22.2	90	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.53	750.0	29.66	753.4	66	18.9	78	NW	7	3.1	.....	2ck	2ks	NW	NW	Inap.	Inap.	Fair	F. Allison, M. A.
Hamilton, Ontario	29.60	751.8	29.96	761.0	74.3	23.5	87	W	.....	.....	2	3c	0	)	.....	0.80	20.3	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.82	757.4	29.84	757.9	52	11.1	83	S	.....	.....	5	.....	10	.....	.....	0.28	7.1	Raining	E. Weedon.
*Kingston, Ontario	29.56	750.8	29.88	758.9	78	25.6	74	N	5	2.2	.....	0	0	.....	.....	0.12	3.0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.49	749.0	29.53	750.0	64.6	18.1	.....	W	9	4.0	.....	8k	0	W	.....	0.04	16.3	Cloudy	C. H. Rigby.
*Montreal, Quebec	29.63	752.6	29.81	757.2	77	25.0	65	NW	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.23	744.0	29.65	760.7	72	22.2	90	NE	6	2.7	.....	0	0	.....	.....	0.35	8.9	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	29.91	759.7	75.0	23.9	79	W	.....	.....	1	0	0	.....	.....	0	0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.27	743.4	29.93	760.2	75	23.9	86	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Hastings, N. S	29.56	750.8	29.61	752.1	58.0	14.4	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.31	744.5	29.92	760.0	77	25.0	84	E	4	1.8	.....	0	0	.....	.....	0.66	16.8	Clear	M. Payne.
*Quebec, Quebec	29.46	748.3	29.77	756 1	64	17.8	97	W	.....	.....	1	0	2ks	.....	W	0.15	3.8	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.51	749.5	29.95	760.7	73	22.8	65	NE	6	2.7	.....	2cs	0	NE	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.68	753.9	29.73	755.1	59	15.0	90	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.68	751.3	29.74	755.4	61	16.1	88	NW	5	2.2	.....	9ks	0	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.26	743.2	29.94	760.5	74	23.3	80	NE	5	2.2	.....	0	0	.....	.....	0.48	12.2	Clear	K. Stewart.
Stayner, Ontario	29.17	740.9	29.91	759.7	73	22.8	80	N	3	1.3	.....	0	0	.....	.....	0.35	8.9	Clear	R. J. Cole.
Stratford, Ontario	28.70	729.0	29.92	760.0	70.4	21.3	91	NE	3	1.3	.....	0	0	.....	.....	0.407	10.34	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.53	750.0	29.56	750.8	63	17.2	89	W	12	5.4	.....	.....	10n	.....	W	0.44	11.2	Cloudy	T. C. Hill.
*Toronto, Ontario	29.67	751.1	29.94	760.5	73	22.8	83	N	5	2.2	.....	2cs	0	Calm	.....	0.15	3.8	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	50.0	10.0	100	SE	.....	.....	.....	5	5n	.....	.....	Inap.	Inap.	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction.	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0-10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.59	751.6	29.80	756.9	75	23.9	83	W	4	1.8	....	.....	10n	.....	W	0.01	0.3	Light rain	
Alpena, Michigan	29.31	744.5	29.92	760.0	74	23.3	63	N	6	2.7	.....	1cs	0	Calm	.....	0.25	6.3	Clear	
Atlantic City, New Jersey	29.81	757.2	29.83	757.7	79	26.1	82	SW	4	1.8	.....	2c	Haze	Calm	Calm	0	0	Fair	
Augusta, Georgia	29.82	757.4	29.99	761.7	86	30.0	68	SE	2	0.9	.....	2k	0	E	.....	0	0	Clear	
Baltimore, Maryland	29.79	756.7	29.84	757.9	88	31.1	62	SW	4	1.8	.....	5k	5s;hz	Calm	Calm	0	0	Cloudy	
Barnegat, New Jersey	29.81	757.2	29.83	757.7	86	30.0	72	W	8	3.6	.....	2c	Haze	W	Calm	0	0	Fair	
Bismarck, Dakota	28.18	715.8	30.03	762.7	65	18.3	84	SW	3	1.3	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
BoiseCity, Idaho	27.13	689.1	30.01	762.2	54	12.2	67	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.63	752.6	29.77	756.1	83	28.3	58	W	3	1.3	.....	5ck	5s;hz	NW	W;Calm	Inap.	Inap.	Cloudy	
Brackettville, Texas	28.77	730.7	29.75	755.6	80	26.7	78	E	2	0.9	.....	2cs	2s	Calm	SE	0	0	Fair	
Breckenridge, Minnesota	28.89	733.8	29.84	757.9	71	21.7	95	E	4	1.8	.....	1k	0	Calm	.....	1.20	32.8	Clear	
Brownsville, Texas	29.82	757.4	29.88	758.9	80	26.7	86	S	4	1.8	.....	.....	10s	.....	Calm	0.62	15.7	Cloudy	
Buffalo, New York	29.23	742 4	29.88	758.9	78	25.6	73	NE	2	0.9	.....	1k	0	NE	.....	0.10	2.5	Clear	
Burkes, Arizona	.....	.....	.....	.....	75	23.9	56	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Clear	
Burlington, Vermont	29.57	751.1	29.81	757.2	77	25.0	69	N	4	1.8	.....	1k	0	NW	.....	0	0	Clear	
Cairo, Illinois	29.63	752.6	30.00	762.0	87	30.6	72	Calm	0	.....	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	70	21.1	70	Calm	.....	.....	0	0	0	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.19	639.8	29.99	761.7	70	21.1	57	Calm	.....	.....	0	5ck	2s	N	Calm	0.01	0.3	Fair	
Camp Verde, Arizona	26.67	677.4	30.16	766.1	72	22.2	38	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.31	693.7	29.88	758.9	47	8.3	85	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear,	
Cape Hatteras, N. Carolina	29.98	761.5	29.99	761.7	82	27.8	83	SW	14	6.3	.....	2k	0	SW	.....	0.03	0.8	Fair	
Cape Henry, Virginia	29.90	759.4	29.92	760.0	82	27.8	79	SW	12	5.4	.....	5cs	0	SW	.....	0	0	Fair	
Cape Lookout, N. Carolina	29 98	761.5	29.99	761.7	84	28.9	75	SW	16	7.2	.....	2k	0	E	.....	0	0	Fair	
Cape May, New Jersey	29.83	757.7	29.86	758.4	80	26.7	78	SW	12	5.4	.....	1c	0	NW	.....	0	0	Clear	
Charleston, South Carolina	29.96	761.0	30.03	762.7	85	29.4	79	S	8	3.6	.....	0	8ks	.....	S	0.01	0.3	Fair	
Cheyenne, Wyoming	24.15	613 4	30.09	764.3	59	15.0	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.26	743.2	29.91	759.7	75	23.9	77	NE	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Cincinnati Ohio	29.27	743.4	29.88	758.9	79	26.1	84	NW	6	2.7	.....	.....	10ks	.....	NW	Inap.	Inap.	Cloudy	
Cleveland, Ohio	29.21	741.9	29.89	759.2	75	23.9	81	N	6	2.7	.....	0	5ks	.....	N	0.02	0.5	Fair	
Columbus, Ohio	29.11	739.4	29.85	758.4	78	25.6	86	Calm	.....	.....	0	.....	10s	.....	W	0.14	3.6	Cloudy	
Concho, Texas	28.03	711.9	29.62	752.3	75	23.9	81	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.49	749.0	29.94	760.5	77	25.0	91	S	1	0.4	.....	2ck	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.36	745.7	29.94	761.0	77	25.0	65	SE	2	0.9	.....	0	7ks	SW	SW	0	0	Fair	
Denison, Texas	29.19	741.4	29.95	760.7	78	25.6	82	SE	3	1.3	.....	5k	2s	SE	SE	0	0	Fair	
Denver, Colorado	24.88	631.9	30.10	764.5	65	18.3	68	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.27	743.4	29.91	759.7	71	21.7	80	N	3	1.3	.....	0	2s	.....	NE	0.09	2.3	Fair	
Dodge City, Kansas	27.35	694.7	29.50	749.3	76	24.4	77	S	8	3.6	.....	5ck	5ks	Calm	Calm	0	0	Cloudy	
Dubuque, Iowa	29.28	743.7	29.94	760.5	76	24.4	64	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Duluth, Minnesota	29.21	741.9	29.85	758.2	71	21.7	85	Calm	0	0	.....	0	2s	.....	Calm	0.20	5.1	Fair	
Eagle Pass, Texas	29.12	739.6	29.82	757.4	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.64	752.8	29.71	754.6	58	14.4	94	Calm	0	0	.....	.....	10n	.....	.....	0.02	0.5	Light rain	
El Paso, Texas	.....	.....	.....	.....	82	27.8	52	SE	12	5.4	.....	0	5s	.....	SE	0.04	1.0	Fair	
Erie, Pennsylvania	29.21	741.9	29.88	758.9	78	25.6	86	Calm	0	0	.....	.....	10ks	.....	N	Inap.	Inap.	Cloudy	
Escanaba, Michigan	29.34	745.2	29.96	761.0	75	23.9	72	N	2	0.9	.....	5ck	0	N	.....	0	0	Fair	
Florence, Arizona	.....	.....	.....	.....	80	26.7	59	Calm	.....	.....	0	2ck	2ks	SE	SE	0	0	Fair	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.18	639.6	30.44	765.5	65	18.3	68	NW	3	1.3	.....	0	0	.....	.....	0.01	0.3	Clear	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760.5	81	27.2	70	E	7	3.1	.....	2c	Haze	NW	Calm	0	0	Clear	
Fort Griffin, Texas	28.69	728.7	29.92	760.0	72	22.2	85	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort St, Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.78	756.4	77	25.0	82	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.87	758.7	29.91	759.7	84	28.9	75	SE	6	2.7	.....	5k	0	E	.....	0	0	Fair	
Grand Haven, Michigan	29.33	745.0	29.94	760.5	80	26.7	59	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.19	741.4	29.93	760.2	73	22.8	81	NW	4	1.8	.....	8ck;k	0	N	.....	0	0	Fair	
Indianola, Texas	29.87	758.7	29.99	759.4	83	28.3	83	E	12	5.4	.....	10cs;k	0	Calm;E	.....	0.01	0.3	Cloudy	
Jacksboro, Texas	28.82	732.0	29.90	759.4	79	26.1	74	S	3	1.3	.....	0	4ks	S	S	0	0	Fair	
Jacksonville, Florida	30.00	762.0	30.02	762.5	84	28.9	75	SW	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.32	744.7	29.89	759.2	84	28.9	71	S	6	2.7	.....	0	0	.....	.....	1.01	25.7	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	84	28.9	75	S	4	1.8	.....	6cs;k	1ks	E;Calm	Calm	0	0	Fair	
Kittyhawk, North Carolina	29.93	760.2	29.95	760.7	80	26.7	87	W	16	7.2	.....	0	2s	.....	W	0	0	Fair	
Knoxville, Tennessee	29.02	737.1	29.96	761.0	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.19	741.4	29.88	758.9	78	25.6	78	SE	2	0.9	.....	.....	10s	.....	S	0.05	1.3	Cloudy	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	69	20.6	85	Calm	0	0	.....	5c	0	Calm	.....	0.01	0.3	Fair	
Laredo, Texas	29.45	748.0	29.77	756.1	82	27.8	79	NE	4	1.8	.....	5ck	0	Calm	.....	0	0	Fair	
Lead City, Dakota	24.95	633.7	.....	.....	60	15.6	82	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.10	739.1	29.89	759.2	78	25.6	78	S	4	1.8	.....	.....	10ks	.....	S	0.10	2.5	Cloudy	
Los Angeles, California	29.50	749.3	29.83	757.7	61	16.1	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.38	746.2	29.90	759.4	82	27.8	75	SW	4	1.8	.....	8c	Haze	W	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.23	742.4	29.87	758.7	84	28.9	64	W	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.26	743.2	29.93	760.2	72	22.2	58	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
Mason, Texas	28.32	719.3	30.00	762.0	74	23.3	90	Calm	0	0	.....	5ck	2s	N	Calm	0	0	Fair	
Memphis, Tennessee	29.70	754 4	30.00	762.0	84	28.9	75	N	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Milwaukee, Wisconsin	29.25	743.2	29.94	760.5	76	24.4	69	Calm	0	0	.....	5c	0	.....	.....	0	0	Fair	
Mobile, Alabama	29.97	761.2	30.01	762.2	83	28.3	75	S	3	1.3	.....	3cs;k	0	Calm;SE	.....	Inap.	Inap.	Fair	
Montgomery, Alabama	29.76	755.9	29.98	761.5	84	28.9	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.90	734.0	29.88	758.9	84	28.9	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.80	604.5	30.16	766.1	54	12.2	100	NW	20	8.9	.....	.....	.....	Fog	NW	0.06	1.5	Foggy	
Nashville, Tennessee	29.47	748.5	29.97	761.2	85	29.4	76	NW	2	0.9	.....	0	0	.....	.....	1.74	44.2	Clear	
New Haven, Connecticut	29.70	754.4	29.91	757 2	84	28.9	71	NW	3	1.3	.....	5c	0	.....	.....	0	0	Fair	
New London, Connecticut	29.75	755.6	29.80	756.9	80	26.7	82	Calm	0	0	.....	3ck;cs	1s;hz	NW	Calm	0	0	Fair	
New Orleans, Louisiana	29.92	760 0	29.98	761.5	82	27.8	79	NE	1	0.4	.....	0	0	.....	.....	0.39	9.9	Clear	
Newport, Rhode Island	29.75	755.6	29.79	756.7	78	25.6	73	S	3	1.3	.....	5k	0	W	.....	0	0	Fair	
New York, New York	29.68	753.9	29.84	757.9	81	27.2	66	NW	4	1.8	.....	8c;cs	Haze	Calm	.....	0.42	10.7	Fair	
Norfolk, Virginia	29.87	758.7	29.93	760.2	87	30.6	72	SW	10	4.5	.....	2c	0	Calm	.....	0	0	Clear	
North Platte, Nebraska	27.09	688.1	29.55	750.6	67	19.4	84	Calm	0	0	.....	5c	0	W	.....	0.01	0.3	Fair	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	51	10.6	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.77	730.7	29.77	754.1	79	26.1	87	S	6	2.7	.....	.....	10s	.....	S	0.08	2.0	Cloudy	
Oswego, New York	29.58	751.3	29.88	758.9	75	23.9	86	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pembina, Dakota	29.01	736.8	29.81	757.2	62	16.7	94	SW	6	2.7	.....	0	0	.....	.....	0.86	21.8	Clear	
Philadelphia, Pennsylvania	29.78	756.4	29.83	757.7	84	28.9	67	N	8	3.6	.....	2cs;ck	Sm'o	SW	Calm	0	0	Clear	
Phœnix, Arizona	25.64	727.4	.....	.....	81	27.2	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.10	459.7	30.31	769.9	41	5.0	65	S	12	5.4	.....	5ck	2s	W	SW	0	0	Cloudy	
Pioche, Nevada	24.07	611.4	29.84	757.9	58	14.4	17	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.11	739 4	29.86	758.4	79	26.1	74	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Port Huron, Michigan	29.28	743.7	29.91	759.7	71	21.7	80	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.69	754.1	29.74	755.4	77	25.0	73	W	8	3.6	.....	5k	Haze	NW	.....	0	0	Fair	
Portland, Oregon	29.93	760 2	30.04	763.0	59	15.0	82	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.79	629.6	30.15	765.8	67	13.9	41	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Rassa, Florida	30.00	762.0	30.02	762.5	81	27.2	83	SE	6	2.7	.....	2c	0	W	.....	0.61	15.5	Clear	
Red Bluff, California	29.49	749.0	29.84	757.9	64	17.8	53	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.31	744.5	29.88	758.9	78	25.6	73	NW	5	2.2	.....	2k	0	W	.....	Inap.	Inap.	Clear	
Roseburg, Oregon	29.44	747.8	30.00	762.0	53.5	11.9	96	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.76	755.9	29.84	757.9	58	14.4	82	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.43	747.5	29.97	761.2	82	27.8	70	E	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
St. Marks, Florida	30.00	762.0	30.02	762.5	78	25.6	95	Calm	0	0	.....	2k	0	Calm	.....	0.26	6.6	Fair	
St. Paul, Minnesota	29.03	737.3	29.81	757.2	75	23.9	85	SE	10	4.5	.....	10ck	0	W	.....	0	0	Cloudy	
Salt Lake City, Utah	25.61	650.5	29.91	760.5	67	19.4	33	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.23	742.4	29.79	756.7	79	26.1	78	N	2	0.9	.....	2c	0	Calm	.....	0	0	Clear	
San Diego, California	29.79	756.7	29.86	758.4	65	18.3	84	NW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.28	743.7	29.92	760.0	74	23.3	86	N	12	5.4	.....	.....	10ks	.....	N	Inap	Inap.	Cloudy	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	87	30.6	65	W	11	4.9	.....	5cs	0	NW	.....	0	0	Fair	
San Francisco, California	29.82	757.4	29.88	758.9	54	12.2	93	SW	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.88	593.8	29.92	760.0	60	15.6	65	E	2	0.9	.....	0	5ks	.....	Calm	Inap.	Inap.	Fair	
Savannah, Georgia	29.93	760.2	30.02	762.5	83	28.3	83	SW	6	2.7	.....	5k	5ks	W	SW	0.34	8.6	Cloudy	
Shreveport, Louisiana	29.78	756.4	29.99	761.7	80	26.7	82	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.31	617.5	30.28	769.1	63	17.2	83	Calm	0	0	.....	0	5s	.....	Calm	Inap.	Inap.	Fair	
Smithville, North Carolina	30.00	762.0	30.03	762.7	83	28.3	75	SW	7	3.1	.....	5k	0	SW	.....	0	0	Fair	
Springfield, Massachusetts	29.61	752.1	29.72	754.9	84	28.9	68	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	29.88	682.7	29.88	758.9	72	22.2	45	SE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.72	751.9	29.78	756.4	73	22.8	81	SW	8	3.6	.....	2k	8s	Calm	Calm	0	0	Cloudy	
Toledo, Ohio,	29.25	742.9	29.89	759.2	76	24.4	69	N	6	2.7	.....	0	2ks	.....	Calm	0.20	5.1	Fair	
Tucson, Arizona	27.32	693.9	29.87	758.7	84	28.9	52	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	82	27.8	87	SW	5	2.2	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy	
Umatilla, Oregon	29.60	751.8	.....	.....	68	14.4	64	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	79	26.1	87	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.36	618.7	29.84	757.9	50	13.3	51	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.48	748.8	29.84	757.9	63	17.2	72	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.77	756.1	29.88	758.9	84	28.9	75	S	3	1.3	.....	8ck	Haze	W	S	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	68	20.0	27	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.93	760.2	30.01	762.2	82	27.8	77	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	66	18.8	40	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.74	755.4	29.79	756.7	78	25.6	77	NE	2	0.9	.....	2ck	5s	NW	NW	0	0	Cloudy	
Yankton, Dakota	28.61	726.7	29.82	757.4	77	25.0	88	SE	1	0.4	.....	10c	0	W	.....	0	0	Cloudy	
Yuma, Arizona	29.55	750.6	29.70	754.4	74	23.3	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.79	756.7	29.84	757.9	62.5	16.9	83	E	11	4.9	.....	4c	0	NE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.97	761.2	29.99	761.7	82	27.8	74	SE	2.4	1.1	.....	10ck	0	Calm	.....	0	0	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	81	27.2	91	Calm	0	0	.....	10c	8n	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I.	29.90	759.4	29.98	761.5	83	28.3	.....	E	10.8	4.8	.....	.....	.....	.....	.....	Blank	Blank	Cloudy	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	81	27.2	87	SE	2	0.9	.....	5k	7ks	SE	.....	1.200	30.48	½ cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herrin.
Medellin, Colombia, S. A.	25.20	640.1	.....	.....	65.0	18.3	82	Calm	0	0	.....	2cs	0	.....	.....	0.10	2.5	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,680 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,320.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,460 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.87	758.7	56	13.3	54	12.2	93	NW	13	5.8	.....	.....	10	.....	SW	.....	.....	.....	.....	Dense fog....	
Navy Yard, Pensacola, Fla.	30.15	765.8	82	27.8	82	27.8	83	NW	1	0.4	.....	.....	5	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N. H	29.78	756.4	83	28.3	75	23.9	77	W	1	0.4	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.	
Naval Hospital, Yokohama, Japan	29.92*	760.0*	76.5	25.8	78	25.6	82	SW	.....	.....	4	.....	6k;8	.....	SW	0	0	.....	.....	Lightning ...	
Adams. Apia, Samoan Islands	30.02	762.5	79	26.1	78	25.6	95	N	.....	.....	1	.....	1	.....	N	.....	.....	.....	.....	Pleasant...	
Alliance, Havre, France	30.19‡	766.8‡	.....	.....	78	25.6	78	E	.....	.....	2-3	.....	.....	.....	.....	.....	.....	.....	.....	Misty.....	
Ashuelot. Nagasaki, Japan	29.94	760.5	76	24.4	76	24.4	95	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Drizzling....	
Alaska, Perambuco, Brazil	30.20	767.1	78	25.6	77	25.0	77	SSE	.....	.....	4	.....	6	.....	SE	0.1	3.	Heavy ground	SE	Showery.....	
Canonicus, New Orleans, La	30.03	762.7	56	13.3	60	26.7	91	NE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y	29.84‡	757.9‡	.....	.....	82	27.8	67	WNW	3	1.3	.....	.....	8	.....	W	0.75	19.1	... .	.....	Hazy.....	
Constitution, Havre, France	30.17‡	766.3‡	.....	.....	79	26.1	62	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Despatch, Prince's Islands, Sea of Marmora	29.91‡	759.7‡	.....	.....	74	23.3	76	NNW	.....	.....	3	.....	5	.....	N	.....	.....	Smooth	.....	Fair.....	
Franklin, Norfolk, Va	30.22	767.6	78	25.6	82	27.8	79	SW	8	3.6	.....	.....	8?	.....	SSW	0	0	.....	.....	Clear.	
Gettysburg N. 34° 45′, E. 22° 06′	29.94‡	760.5‡	.....	.....	77	25.0	100	N	.....	.....	1	.....	0	.....	.....	0	0	Long	NNW	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.16	766.1	.....	.....	71	21.7	80	N	2.4	1.1	.....	.....	8	.....	N	0	0	.....	.....	Fair	
Marion, Villefranche, France	30.13	765.3	81	27.2	82	27.8	63	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Buffalo, N. Y	29.55	750.6	79	26.1	77	25.0	82	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.86‡	758.4‡	.....	.....	78	25.6	91	SSW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C	30.22†	767.6†	.....	.....	81	27.2	100	SW	12	5.4	.....	.....	8	.....	W	0.12	3.0	.....	.....	Fair.....	
Onward, Callao, Peru	30.06†	763.5†	.....	.....	60.5	15.8	85	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.80	756.9	89	31.7	85	29.4	87	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.98	761.5	66	18.9	55	12.8	93	SW	5	2.2	.....	.....	10	.....	SW	.....	.....	.....	.....	Foggy	
Plymouth. New York, N. Y	29.84‡	757.9‡	.....	.....	81	27.2	78	SW	.....	.....	0-1	.....	1	.....	NW	.....	.....	.....	.....	.....	
Ranger. Hong-Kong, China	29.96*	761.0*	.....	.....	86	30.0	87	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	.....	.....	D. clouds....	
Rio Bravo, Brownsville, Texas	29.86	758.4	79	26.1	79	26.1	95	S	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Raining.....	
Santee, Annapolis, Md	29.87‡	758.7‡	.....	.....	84	28.9	75	SW	.....	.....	1	.....	8	.....	W	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.83	757.7	82	27.8	82	27.8	87	SW	4	1.8	.....	.....	5	.....	WNW	0	0	.....	.....	Fair	
Supply, Havre, France	30.29	769.4	77	25.0	79	26.1	67	ENE	.....	.....	1-2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass	29.78‡	756.4‡	.....	.....	78	25.6	91	NW	.....	.....	1	.....	8	.....	W	.....	.....	.....	.....	Cloudy.....	
Trenton, N. 38° 32′, E. 1° 58′	30.10‡	764.5‡	.....	.....	78	25.6	91	SSW	.....	.....	2-3	.....	2	.....	S;W	0	0	.....	.....	Fair.....	
Tuscarora, Acapulco, Mexico	29.67	753.6	80	26.7	80	26.7	82	NE	.....	.....	1	.....	5	.....	NE	0.05	1.3	.....	.....	Fair.....	
Vandalia, Beirut, Syria	29.75‡	755.6‡	.....	.....	84	28.9	65	W	.....	.....	1	.....	2	.....	W	.....	.....	Long	W	Clear.....	
Wabash, Boston, Mass	29.75‡	755.6‡	.....	.....	84	28.9	68	W	4	1.8	.....	.....	10	.....	Calm	0	0	... ...	.....	Cloudy	
Wyoming, N. 47° 42′, W. 43° 28′	29.88	758.9	61	16.1	58	14.4	82	Calm	.....	.....	0	.....	3	.....	N	.....	.....	Smooth	.....	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Hong-Kong, China.		29.86*	758.4*	85	29.4	100	SSW			1		3		S	0			Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 17° 56', W. 102° 40'		29.86†	758.4†	83	28.3	91	E			2		8		SSE	Blank			Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 28° 34', W. 146° 25'		30.62‡	775 2‡	76	24.4	82	ENE			4		5		NE	0	Mod'ate	NE	Cloudy	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. ‡Aneroid; corrected for elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic,																			
S. S. Gaelic. N. 45° 07' E. 174° 44'		29.67*	751.1*	54	12.2	01	SW			4		Fog		SW	0	Smooth		Foggy	Capt. L. Myer.
S. S. Oceanic																			Capt. W. H. Kidley. Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'wr 0–10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 41° 39′, W. 55° 56′		29.98*	761.5*	64	17.8	89	WNW			2		4		NW	Heavy	Light	W	Partly cl'dy	Captain Sargent.
S. S. Ohio. N. 48° 41′ W. 31° 28′		30.15	765.8	68	20.0	90	SSW			3		10		SSW	Light	Small	SSW	Overcast	Captain Morrison.
S. S. Pennsylvania, N. 51° 00′, W. 17° 13′		30.29†	769.4†	66	18.9	100	ENE			3		5		E	0	Light	ENE	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 48° 36′, W. 23° 54′		30.32*	770.1*				N	7	3.1			9		NNW		Slight	SE	Misty	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Off Cape Mercy		30.28*	769.1*	41.0	5.0	82	NNE			3	0	5ks		NNW	0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 20, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
0:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.02	762.6	69.6	20.9	83	NE			4		2			0	0	Fair	Dr. Ollive.
Nemours			29.98	761.6	86.2	30.1	67	NNW			1		1			0	0	Very fair.	Michel.
Algiers			29.95	760.7	82.4	28.0	70	NNE			3		1			0	0	Very fair.	Tourillere.
La Calle			29.98	761.6	90.5	32.5	67	NNW			1		2			0	0	Fair	Foufrede.
Tunis			30.02	762.5	92.7	33.7		NE			6		0			0	0	Clear	Jacques.
Sfax			30.12	765.0	89.6	32.0		SSE			3		2			0	0	Fair	Gau.
Saida			30.05	763.3	94.5	34.7	24	N			1		0			0	0	Clear	Herbin.
Tebessa			30.02	762.5	94.5	34.7	7	N			4		1			0	0	Very fair.	Watrin.
Geriville			30.08	764.1	101.1	38.4		E			8		5			0	0	Cloudy	Brugnlaux.
Laghouat			30 07	763.7	100.8	38.2	20	N			1		2			0	0	Fair	Bertrand.
Biskra			30.07	763.7	102.6	39.2		SE			1		1			0	0	Very fair.	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.44	747.7	29.96	760.9	85.5	29.7	54	SW			3		4			0	0		Prof. Ivan Stoza.
Cracow	29.30	744.1	30.03	762.7	67.1	19.5	57	W			1		8			0	0		Prof. Dr. Karlinski.
Eperies	29.06	738.2	29.91	759.7	69.3	20.7	56	NW			6		8c;s		SE	0	0		Julius Mikolitz.
Gratz	28.77	730.7	29.97	761.1	75.9	24.4	70	ENE			3		3			0	0		Andreas Rospini.
Hermannstadt	28.50	723.8	29.89	759.3	60.8	16.0	85	SW			1		10			0	0		Prof. Reissenberg
Kremsmünster	28.64	727.5	29.92	760.0	74.1	23.4	58	WNW			2		0			0	0		Prof. C. Wagner
Lemberg	28.85	732.9	29.82	757.3	63.7	17.6	63	NE			2		7			0.059	1.5		Dr. T. Stanecki.
Pola	29.87	758.6	29.97	761.3	85.5	29.7	48	SSW			1		1ck			0	0		I.R.Hydrographic Office
Szathmar	29.46	748.3	29.91	759.7	68.4	20.2	61	N			5		2			0.303	7.7		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.39	759.3	30.00	761.9	84.2	29.0	65	W			1		0			0	0	Clear	P. Busin.
Vienna	29.35	745.5	30.04	762.9	72.9	22.7	40	N			2		0			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.67	728.2	30.12	765.1	73.9	23.3	47	NE			6		1			0	0		Prof. M. Passau.
Brussels	29.04	769.4	30.13	765.3	76.1	24.5	47	E			5	2		S		0	0		Royal Observatory
Furnes	30.14	765.5	30.16	766.1	82.4	28.0	48	ESE			3		2			0	0		M. E. de Cae.
Maeseyck	30.07	763.8	30.20	767.0	70.9	21.6	72	E			4		1			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.02	762.5	30.12	765.0	60.8	16.0	.....	ENE	10	4.5	.....	.....	2	.....	.....	0.025	0.63	Blue sky.....	W. Boswell.
Ardrossan	30.12	765.0	30.14	765.5	64	17.8	.....	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	30.17	766.3	71.1	21.7	.....	NNW	3	1.3	.....	.....	6	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.11	764.8	72.5	22.5	.....	W	7	3.1	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.12	765.0	77.1	25.1	.....	NNE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.71	754.6	30.11	764.8	80.6	27.0	.....	NW	.....	.....	1	.....	4	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.95	760.7	29.98	761.5	83.5	28.6	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A. [H.C.
Cambridge, Observatory	.....	.....	30.13	765.3	80.0	26.7	.....	SSE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds.....	H. Todd.
Cardington	.....	.....	30.15	765.8	83.0	28.3	.....	SE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	John McLaren.
Chatham, School M. E.	30.01	762.2	30.13	765.3	72.2	22.3	.....	E	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	Lt. W. G. Morris, R. E.
Dartmoor	28.64	727.4	30.05	763.3	73.0	22.8	.....	E	.....	.....	5	.....	4	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.14	765.5	30.16	766.1	64	17.8	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.08	764.0	30.11	764.8	71	21.7	.....	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	¼ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	30.09	764.3	85.0	29.4	.....	S	1.2	0.5	.....	.....	.....	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Falmouth, Observatory	29.81	757.2	30.04	763.0	70.2	21.2	.....	E	.....	.....	3	.....	1	.....	.....	.....	.....	Hazy.....	The Staff.
Fort Napier, (Natal)	27.40	696.0	29.70	754.4	67.2	19.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.83	757.7	30.06	763.5	78	25.6	.....	Calm?	.....	.....	1?	.....	5	.....	.....	.....	.....	.....	.....
Galway, Queen's College	.....	.....	30.08	764.0	77	25.0	.....	NNE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.82	757.4	29.88	758.9	78.5	25.8	.....	W	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.89	759.2	30.10	764.5	72.0	22.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	30.19	766.8	30.20	767.1	66	18.9	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.95	760.7	30.11	764.8	76.8	24.9	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.77	756.1	29.99	761.7	71	21.7	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.10	764.5	76	24.4	.....	E	.....	.....	6	.....	0	.....	.....	.....	.....	Fine.....	M. P. Moyle.
Holyhead	30.08	764.0	30.14	765.5	64	17.8	.....	N	.....	.....	3	.....	2	.....	.....	0	0	Blue sky.....	John Tilston.
Jersey	29.73	755.1	30.01	762.2	79.2	26.2	.....	NNE	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	.....	.....	30.10	764.5	77.6	25.3	.....	ENE	20	8.9	.....	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	30.14	765.5	30.17	766.3	66	18.9	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Foggy	George Mitchell.
Leicester, Museum	.....	.....	30.10	764.5	78.8	26.0	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.98	761.5	30.05	763.3	80	26.7	.....	NE	.....	.....	1	.....	4k	.....	.....	.....	.....	D. clouds.....	Sgt. Hewitt, A. H. C.
Nairn	30.01	762.2	30.10	764.5	69	20.6	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Hazy.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.06	763.5	86.2	30.1	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.99	761.7	30.37	766.3	85.7	29.8	.....	SE	.....	.....	3	.....	5k	.....	SSE	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.61	754.1	30.31	764.8	79.2	26.2	.....	ENE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.31	764.8	80	26.7	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	29.95	760.7	30.03	762.7	76.0	24.4	.....	E	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky.....	John Merrifield.
Roche's Point	30.08	764.0	30.12	765.0	73	22.8	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	W. Kennedy.
Saint Ann's Head	29.93	760.2	30.08	764.0	76	24.4	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	30.13	765.3	57.6	14.2	.....	SW	19	8.5	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C. Clouston, LL.D.
Scutari, Cemetery, (Turkey	.....	.....	29.95	760.7	84.4	29.1	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.86	758.4	30.13	765.3	82.7	28.2	.....	SW	.....	.....	1	.....	1	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.07	763.8	30.10	764.5	80.4	26.9	59	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.71	754.6	30.12	765.0	80.0	26.7	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	Misty.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C. (Hebr.)	30.06	763.5	30.09	764.3	60	15.6	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.90	759.4	30.11	764.8	81.1	27.3	.....	SE	.....	.....	2	.....	3	.....	.....	.....	.....	Squally.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.12	765.0	60	15.6	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro, Royal Institution	.....	.....	30.10	764.5	82	27.8	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	30.09	764.3	72.8	22.7	.....	WSW	16	7.2	.....	.....	2	.....	.....	.....	.....	Hazy.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.45	748.0	57.0	13.9	60	NW	.....	.....	3	.....	8n	.....	.....	0.01	0.3	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restairig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.11	764.7	69.4	20.8	78	E	14.5	6.5	.....	2	6	.....	ESE	0.25	6.4	Cloudy	C. Meldrum.
Melbourne, Observatory	29.82	757.4	29.92	759.9	49.2	9.6	88	NW	6	2.7	.....	.....	3	.....	.....	0.28	7.1	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 43° 35', W. 61° 45'	.....	.....	29.65	753.1	59	15.0	.....	WNW	.....	.....	4	.....	7	.....	.....	10*	W	Showery.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 51° 40' W. 48° 30'	.....	.....	29.13	739.9	50	10.0	.....	SE	.....	.....	8	.....	10	.....	.....	7	.....	Raining	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[R.
S. S. Peruvian, N. 56° 10' W. 22° 50'	.....	.....	30.11	764.8	58	14.4	.....	SSW	.....	.....	5	.....	9	.....	.....	4	.....	Misty.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 56° 10', W. 49° 25'	.....	.....	29.68	753.9	4.8	8.9	.....	ENE	.....	.....	5	.....	10	.....	.....	3	.....	Raining.....	Capt. Alex. Simpson.
Barque Virginia, N. 49° 45', W. 22° 00'	.....	.....	30.21	767.3	64	17.8	.....	NNW	.....	.....	2	.....	10	.....	.....	0	Calm	Overcast.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum't'al error and temperature. Inches.	BAROMETER. Corrected for instrum't'al error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas					68.9	20.5	89	SE			2	6s;hz	2s			0.3	8.		Mr. Ansart.
San José	26.23	666.2																	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.96	761.0	30.01	762.2	63.7	20.4	58	NW			4		2					
Faröe	30.10	764.5	30.12	765.0	69.9	17.7	73	NW			6		9					
Godthaab, (Greenland)	29.83	757.6	29.87	758.7	44.4	6.9		Calm			0		10					
Stykkisholm, (Iceland)	29.62	752.8	29.66	753.4	53.6	12.0	84	SW			6		8					
Thorshavn, (Faröe)	29.99	761.8	30.03	762.7	56.3	13.5	68	WSW			4		3					
Vestervig	29.92	760.0	30.09	764.3	60.8	16.0	83	NW			6		9					

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.60	749.3	30.05	763.3	75.2	24	49	E			1		2			0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School	30.02	762.5	30.12	765.1	84.2	29.0	50	NE			2		2			0	0	Very clear	Bouvallet, Director.
Avignon, Normal School	29.89	759.1	29.97	761.1	91.4	33	40	SSW			1		0			0	0	Slightly cl'dy	Mr. Giraud, Director.
Bar-sur-Seine	29.47	748.6	30.01	762.2	83.1	28.4	40	SE			2	2c		SE		0	0	Slightly cl'dy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.84	757.8	30.11	764.8	79.0	26.1	84	E			3		0			0	0	Clear	Normal School.
Besançon	29.15	740.4	29.99	761.8	83.3	28.5	54	NE			6		0			0	0	Clear	Normal School.
Bourg-en-Bresse	29.15	740.5	30.10	764.4	88.5	31.4	50	N			2		0			0	0	Clear	Normal School.
Bourges, Normal School	29.44	747.8	30.06	763.5	82.4	28	55	NNE			2	c		NNE		0	0		A. Wagner, Director.
Brest, Naval Observatory	29.63	752.7	29.88	758.9	88.2	31.2	69	E			3		4		E	0	0	Stormy	The Staff.
Carcassonne, Normal School	29.69	754.6	29.98	761.5	80.0	30	53	E			2		2		E	0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.41	747.0	29.95	760.8	87.4	30.8	66	E			2		0			0	0	Clear	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.74	755.4	30.04	763.0	85.5	29.7	43	SE			0		0			0	0	Clear	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.63	727.2	29.89	759.2	90.1	32.3	41	NE			1		0			0	0	Clear	Alluard, Director.
Commercy, Normal School	29.23	742.4	30.07	763.7	76.3	24.6	57	E			0		0			0	0	Clear	Dr. Coulet, Director.
Commune de Grésque*	28.98	736.0	30.04	763.0	89.1	31.7	35	SW			2		0			0	0	Clear	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.78	756.4	29.99	761.8	66.9	19.4	98	S			6		5		N	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.70	754.4	29.99	761.8	84.6	29.2	59	SE			4		2		SE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.11	739.5	29.98	761.5	82.0	27.8	49	N			2		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	29.85	758.1	29.95	760.6	74.5	23.6	78	SSE			3		8		S	0	0	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.84	745.2	29.99	761.8	81.3	27.4	75	N			2		6			0	0	Clear	M. Galziu, Director.
Mirecourt	29.05	738.7	30.05	763.2	75.2	24	59	NNE			4		0			0	0	Clear	Normal School
Nismes, Normal School	29.75	755.6	29.94	760.4	95.0	35	54	S			2		0			0	0	Clear	Royer, Director.
Orleans, Normal School	29.65	753.0	30.01	762.2	86.9	30.5	46	NE			3		0			0	0	Clear	Bernard, Director.
Paris, Observatory	29.78	756.3	30.00	762.0	81.5	27.5	47	E			3		0			0	0	Clear	National Observatory.
Privas	29.04	737.5	30.04	763.0	85.1	29.5	42	S			2		1		S	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.00	762.0	30.03	762.8	77.7	25.4	49	SW			3		10		SW	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	30.00	762.0	30.08	764.1	83.8	28.8	47	NE			4		0			0	0	Clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	29.02	737.1	30.04	763.1	82.4	28	63	W			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.27	743.4	29.95	760.6	80.6	27	65	ENE			1		0			0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.93	760.2	82.4	28										0	0		L'Abbé Marchési.
Lyons																			L. Jays.
Marseilles, Observatory			29.96	760.9	84.7	29.3	53	W			1–2		1			0	0		The Staff.
Mont-Louis	25.00	634.9	30.31	769.9	73.4	23.0	48	SSW	5.6	2.50			2		SW	1.12	28.5		M. Cave.
Nice			30.04	763.0	79.0	26.1	76	E			1		1			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.75	755.7	30.03	762.7	83.8	28.8	50	E			3		0			0	0		Marié Davy, Director
Perpignan			29.98	761.4	85.6	29.8	62	SE	7.4	3.33			1		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Raylac.
Pic du Midi, (Plantade,) H. P.	22.73	577.3			67.1	19.5		S			2		2			0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.87	758.7	30.04	762.9	82.4	28.0	50	NE			2–3		0			0	0	Clear	F. Renou.
Toulouse, Observatory	29.35	745.5	30.09	764.3	74.1	23.4	72	NNW			1		8			0	0		The Staff.
Tours	29.73	755.1	29.94	760.1	88.9	31.6	48	E			2		5		SSW	0	0		C. Marquet.
Versailles, (near Paris)			30.05	763.2	83.5	28.6	42	SE			3		0			0	0	Very clear	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.86	758.9	29.91	759.6	75.0	23.9	97	E	1.3	0.6			0			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grésque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,447 m.; or 4,812.3 ft.; Tarbes, 398 m., or 1,010 ft.; Mont-Louis, 1,589.40 m., or 5,214.3 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,360 m., or 7,742.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0.55, instead of 0.55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.27	743.5	30.12	765.0	74.7	23.7	48	W			2		0			0	0		Prof. Dr. Hoh.
Berlin	29.94	760.5	30.11	764.8	69.4	20.8	56	W			1		1			0	0		Prof. Arndt.
Breslau	29.58	751.4	30.11	764.9	66.4	19.1	60	WNW			3		3			0	0		Royal University Obs'y.
Carlsruhe	29.67	753.7	30.09	764.2	77.7	25.4	58	NE			2		0			0	0		Albert Senz.
Cassel	29.59	751.6	30.20	767.1	70.5	21.4	58	N			6		5	NNE		0	0		Dr. H. Möhl.
Crefeld	30.02	762.5	30.18	766.6	76.1	24.5	49	E			4		4cs;k			0	0		Director Lose.
Emden	30.13	765.4	30.17	766.4	69.4	20.8	72	N			1		5			0	0		Prof. Prestel.
Frankfort on the Main	29.81	757.1	30.12	765.0	74.1	23.4		NE			3		0			0	0		Physical Society.
Friedrichshafen	28.64	727.4	30.00	762.0	79.0	26.1	54	NE					0			0	0		M. Wilhelm.
Hamburg	30.08	764.1	30.19	766.9	66.9	19.4	75	NW			5		9k			0	0	Fair.	Captain F. Hegemann.
Kiel	30.09	764.3	30.11	764.7	68.5	20.3	65	NW			2		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.84	757.8	29.92	759.9	63.0	17.2	61	N			5		4			0.185	4.7		Prof. E Luther.
Köslin			30.02	762.5	62.2	16.8		NW			2		4			0	0		H. Müller.
Leipsic, Observatory	29.74	755.3	30.15	765.8	69.4	20.8	61	NW			3		2	NNW		0	0		Prof. Bruhns.
Memel, Naval School	29.82	757.3	29.86	758.5	62.8	17.1	63	N			6		1ks						Reinbrecht and Skalweit.
Neufahrwasser	29.96	760.9	29.97	761.3	64.8	18.2	75	NNE			4		4	NW		0	0		A. Lothes.
Posen	29.80	756.8	30.08	763.9	69.8	21.0	53	WSW			6		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.56	750.8	30.08	764.1	78.4	25.8	52	NE			4		0			0	0		Astronomical Observatory.
Stuttgart	29.19	741.5	30.09	764.3	77.5	25.3	52	E			1		1	E		0	0		Prof. Schoder.
Treves, (Trier)	29.48	748.7	30.00	762.0	79.5	26.4	44	NE			5		0			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.63	727.3	30.08	764.1	74.8	23.8	42	NE	2	1			0			0	0		Dr. Von Bebber.
Wustrow, Naval School	30.08	764.0	30.12	765.0	64.4	18.0	75	W			3		3			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.3	29.95	760.7	86.2	30.1		S			3.0							½ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.41	746.9	29.46	748.2	88.3	31.3	71	WSW	35?	15.6?			5		WSW	0	0	D. clouds	
Deesa	29.05	737.9	29.51	749.6	90.3	32.4	71	Calm					10		E	0	0	Thunder	
Bombay	29.53	750.1	29.57	751.0	78.9	26.1	94	WSW	27	12.1			10		WSW	2.09	53.1	Overcast	
Poona	27.62	701.5	29.61	752.1	76.9	24.9	61	S					10		SW	0.06	1.5	Overcast	
Lahore	28.66	728.0	29.37	745.9	99.2	37.3	46	NE	4.1	1.8			0			0	0	Misty	
Belgaum	27.16	689.8	29.70	754.3	71.9	22.2	91	W	17	7.6			10		W	0.31	7.9	Showery	
Bangalore																			
Roorkee	28.53	724.7	29.41	747.0	84.8	29.3	81	E	3.3	1.5			2			0.08	2.0	Thunder;light'ng	
Agra	28.87	733.2	29.40	746.8	101.6	38.7	40	NW								0	0		
Trichinopoly																			
Nagpur	28.45	722.7	29.47	748.6	86.6	30.3	76	W	2.2	1.0			9		NE; SE	0.08	2.0	Gloomy	
Madras																			
Lucknow	29.06	738.2	29.42	747.2	97.6	36.4	58	E	2.5	1.1			4		SE	0	0	Blue sky	
Allahabad	29.13	740.0	29.43	747.5	95.7	35.4	65	Calm	1.8	0.8			10		E	0	0	Overcast	
Patna	29.35	745.5	29.53	750.1	83.3	28.5	85	E	1.0	0.4			10	E	E	0.91	23.1	Overcast	
Hazaribagh	27.56	700.1	29.55	750.6	79.8	26.6	87	NNE	6.5	2.9			10			0.84	21.3	Thunder-storm	
Cuttack	29.46	748.3	29.54	750.3	88.1	31.2	69	SSE	1.9	0.8			3			0.07	1.8	D. clouds	
Calcutta (Alipore)	29.57	751.1	29.59	751.6	86.1	30.1	84	SW	4.0	1.8			3	S	S	0	0	D. clouds	
Goalpara	29.19	741.3	29.57	751.1	81.3	27.4	89	Calm	1.7	0.8			9	W		2.96	75.2	D. clouds	
Chittagong	29.58	751.3	29.67	753.6	84.9	29.4	83	S	6.5	2.9			10			0	0	Misty	
Sibsagar	29.26	743.1	29.58	751.4	83.3	28.5	85	SSE	2.8	1.2			10	W	W	0.88	22.4	D. clouds	
Rangoon																			
Jubbulpore	28.20	716.2	29.54	750.2	85.5	29.7	71	SW	3.6	1.6			6			0	0	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft.. or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.6	29.98	761.6	65.5	29.7	52	SW	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.87	758.7	29.98	761.4	64.4	29.1	53	SSE	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.78	756.4	29.97	761.1	86.5	30.3	45	SSE	2.5	1.1	.....	.....	2	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.70	729.0	29.97	761.1	81.7	27.6	48	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.47	748.4	29.96	760.9	90.0	32.2	.....	NE	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.08	738.7	29.95	760.6	86.9	30.6	43	WNW	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.12	714.2	29.94	760.4	84.7	29.3	50	ENE	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.82	757.3	30.03	762.8	80.6	27.1	66	E	.....	.....	2	.....	5	WSW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.86	758.5	30.03	762.7	78.8	26.0	69	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.65	753.1	29.95	760.7	85.8	29.9	39	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.75	755.7	30.00	761.9	87.8	31.0	35	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.1	30.01	762.2	81.0	27.2	65	NNW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.93	760.2	29.98	761.4	80.6	27.0	68	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.51	724.1	30.00	761.9	83.5	28.6	39	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	29.92	759.9	30.02	762.6	85.6	29.8	63	SSW	.....	.....	4	.....	2	S	.....	0	0	.....	Avv. P. Ponticelli.
Rome	29.85	758.1	30.02	762.4	88.7	31.5	34	W	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.82	757.4	30.01	762.3	83.1	28.4	61	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	82.9	28.3	31	NW	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.80	756.8	29.98	761.5	83.8	28.8	56	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.14	740.2	29.98	761.4	90.7	32.6	50	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.80	757.0	30.06	763.2	79.9	26.6	52	ENE	4.6	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.3	29.97	761.2	85.3	29.6	48	SE	.....	.....	2	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.51	749.5	30.07	763.6	84.7	29.3	57	SSW	4.8	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.80	756.9	30.00	762.0	72.2	22.3	89	SSE	2.6	1.2	.....	.....	5s	.....	.....	2.300	58.42	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory	29.96	761.0	30.02	762.5	78.7	25.9	79	SSW	12.1	5.4	.....	.....	1s	.....	.....	0	0	Clear	
Tokei (Yeddo) University	29.91	759.7	30.01	762.2	79.3	26.5	86	SW	10	4.5	.....	1cs	.....	.....	.....	0	0	Fair	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	65.6	18.7	92	NE	0.0	0.4	.....	8k	0	E	.....	0.27	6.8	Cloudy	L. Castillo, A. E.
Guadalajara	25.07	636.7	30.02	762.4	59.9	15.5	85	N	0.0	0.4	.....	0	8	.....	E	0	0	Cloudy	Prof. L. Perez.
Guanajuato	23.70	602.0	29.84	758.0	68.2	19.0	69	Calm	0	0	.....	8	0	.....	.....	0	0	Cloudy	Prof. V. Fernandez
Leon	.....	.....	.....	.....	66.9	19.4	78	E	0.0	0.4	.....	0	4ks	.....	NE	0	0	½ cloudy	Prof. M. Leal.
Mexico	23.10	586.8	30.08	764.1	57.2	14.0	85	W	0.0	0.4	.....	0	3s	.....	.....	0.02	0.5	Misty	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.0	18.3	72	E	0.0	0.4	.....	0	8ck	.....	SW	0.06	1.4	Cloudy	M. V. de Leon, M. E.
Puebla	23.84	592.7	29.98	761.4	57.2	14.0	88	NE	2.2	1.0	.....	0	10n	.....	.....	0.08	2.1	Covered	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.92	759.9	29.93	760.2	78.8	26.0	80	S	1.8	0.8	.....	10k	0	.....	.....	0	0	Covered	Prof. F. R. Bayly.
San Luis Potosi	24.17	614.1	30.06	763.4	68.0	20.0	72	E	0.0	0.4	.....	5	8	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.93	760.3	29.96	760.9	79.7	26.5	87	Calm	0	0	.....	4ck	3sk	.....	.....	0.12	3.0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	67	NE	5.1	2.3	.....	2	6	.....	.....	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.28	591.2	30.03	762.8	56.3	13.5	80	E	2.2	1.0	.....	1	9	NE	SE	0.70	17.7	Covered	Prof. P. Spina, [M. M. D. D.
Morelia	24.11	612.5	.....	.....	66.2	19.0	52	NW	.....	.....	.....	0	0	.....	.....	0.45	11.3	Clear	M. Tena, F. L. Paramo,
Durango	24.26	616.6	30.05	764.2	66.0	18.9	39	S	0.9	0.4	.....	10ck	0	.....	.....	0.23	5.9	Covered	M. V. de Leon, C. E.
Colima	28.34	719.8	30.00	762.1	78.4	25.8	81	.....	.....	.....	.....	.....	.....	.....	.....	1.84	46.8	Rainy	R. Banda, C. E.
San Juan E. Mixtapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,881 m., or 6,103.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,293.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,165 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,949 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.17	766.4	30.17	766.4	76.6	24.8	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.15	765.8	30.21	767.2	69.6	20.9	.....	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.19	766.8	30.19	766 8	69.8	21.0	.....	NNE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.18	766.6	30.18	766.6	76.8	24.9	62	E	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.15	765.9	30.20	767.1	75.7	24.3	66	NE	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v. d. Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	29.97	761.3	30.03	762.7	57.2	14.0	90	W	12.1	5.4	.....	.....	6	.....	.....	0.164	3.9	....	
Brönö	29.78	756.5	29.82	757.5	55.4	13.0	66	S	4	2	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.71	754 7	29.85	758.3	72.0	22.2	50	WSW	9	4	.....	.....	5	.....	.....	0	0	.....	
Tromsö	29.73	755.2	29.78	756.3	50.7	10.4	65	Calm	0	0	.....	.....	5	.....	.....	0	0	... .	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h..4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.13	765.2	30.32	770.0	72.5	22.5	88	W	7.4	3.3	.....	.....	8	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.7	30.02	762.4	84.7	29.3	27	WNW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Fanchal, (Madeira)	30.11	764.8	30.20	767.0	73.4	22.0	65	SW	3.8	1.7	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	755.9	30.11	764.8	73.4	23.0	57	NNW	16.1	7.2	....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.26	768.6	30.33	770.4	76.3	24.6	62	SW	.....	.....	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 0 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 8° 48′, E. 13° 08′	.....	.....	30.01	762.3	72.5	22.5	.....	WNW	.....	.....	1	.....	10	.....	WNW	1	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.07	763.6	73.4	23.0	.....	SE	.....	.....	4	.....	2	.....	ESE	3	SE	D. clouds.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	29.98	761.6	79.9	26.6	.....	NE	.....	.....	3	.....	7	.....	NE	2	NE	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.01	762.2	72.5	22.5	.....	WNW	.....	.....	1	.....	10	.....	.....	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't. E. lvos do Rio.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.52	749.7	29.93	760 1	67.5	19.7	60	NNW	16	7	.....	.....	6ks;k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.33	745.0	29.74	755.3	62.2	16.8	58	NW	11	5	.....	.....	8	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.42	747.3	29.65	753.2	64.4	18.0	48	NW	7	3	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.53	750.0	29.64	750 4	61.5	16.4	72	NNW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	28.86	733.1	29.48	748.8	58.8	14.9	83	NNW	13	6	.....	.....	10ks;n;c	.....	.....	.....	.....	Raining	Ch. Forsten. Physical Cabinet.
Kieff	29.62	749.7	29.59	751.5	74.5	23.6	55	W	9	4	.....	.....	9kn	.....	.....	.....	.....	.....	Kurdakof.
Nikolaiev	29.69	754.2	29.71	754.7	69.4	20.8	96	S	9	4	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Kertch	29.69	754.2	29.71	754.7	69.4	20.8	96	S	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	28.87	733.2	29.39	746.4	70.0	21.1	68	SW	11	5	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.30	744.1	29.49	749.1	66.0	18.9	72	S	18	8	.....	.....	10n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.39	746.4	29.41	746.9	71.6	22.0	67	NE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.41	721.7	29.78	756.3	89.6	32.0	39	Calm	0	0	.....	.....	6n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.84	757.9	29.76	755.8	84.7	29.3	36	SSW	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	29.09	738.9	29.35	745.4	63.9	17.7	87	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Cand. Fatjanow. Physical Cabinet.
Kasan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Ekaterinburg	28.55	725.2	29.44	747.7	73.4	23.0	56	W	22	10	.....	.....	6ck;ks;n	.....	.....	.....	.....	.....	
Nukuss	29.43	747.6	29.65	753.1	92.8	33.8	46	NNE	18	8	.....	.....	0	.....	.....	.....	.....	.....	Bobrof.
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michelson.
Tashkend	28.09	713.4	29.63	752.6	96.1	35.6	30	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Barnaul	28.97	735.9	29.45	748.0	84.7	29.3	43	NW	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Marks.
Yeniseisk	29.27	743.4	29.54	750.4	69.3	20.7	86	SW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Usolzef.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Peking, (China)	29.55	750.5	29.69	754.1	89.8	32.1	30	SW	4	2	.....	.....	2cs	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 54° 47′, F. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.4	29.96	761.0	83.3	28.5	62	S	1.1	0.50	.....	2c	.....	.....	.....	0	0	Misty.....	Antonio Rave, Directora
Bilbao, Met. Obs'y	30.02	762.4	30.07	763.8	70.9	21.6	78	N	2.7	1.23	.....	.....	10	.....	.....	Inap.	Inap.	Covered	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.12	688.8	.....	.....	84.2	29.0	41	NE	5.3	2.39	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.2	29.86	758 4	95.4	35.2	22	SW	14.1	6.33	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.78	756.4	29.92	760.0	97.3	36.3	51	NE	4.3	1.92	.....	.....	.....	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.18	741.2	30.06	763.5	67.1	19.5	80	SW	2.7	1.19	.....	.....	10	.....	.....	.....	.....	Foggy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.97	761.3	30.04	763.0	83.2	28.4	75	ESE	7.6	3.4	.....	8c	0	ENE	.....	0	0	Fair	Benito Vines, S. J. Federico Faura, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. Pujazon, R. N., Dir.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.0	80.2	26.8	56	W	13.4	6.0	.....	0	2	.....	W	0	0	.....	Leonardo de Tejeda, Ch'f Eng'rs.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	81.7	27.6	88	SE	0	0	....	3k	3kn	SE	SE	0.404	10.25	Cloudy.....	

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.1	29.73	755.1	58.3	14.6	.....	N	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.73	755.1	29.78	756.4	60.8	16.0	59	SW	.....	.....	4	.....	7	.....	.....	0	0	.....	
Hernosand	29.72	755.0	29.78	756.3	68.4	20.2	40	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	
Stockholm	29.67	753.6	29.85	758.1	65.1	18.4	49	W	.....	.....	6	.....	6	.....	.....	0	0	.....	
Wisby	29.81	757.1	29.87	758.6	63.0	17.2	64	WNW	.....	.....	6	.....	5	.....	.....	0.547	13.9	.....	
Sub-Series.																			
Upsala	29.75	755.7	29.83	757.6	65.8	18.8	45	NW	8.7	3.9	.....	.....	3	.....	NW	0	0	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.2	29.99	761.8	76.6	24.8	62	N	.....	.....	1	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.45	722.7	30.00	762.1	80.6	27.0	55	E	.....	.....	4	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.5 mm.; Thermometer, —2.2 cent.; Relative Humidity, +10 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.92	760.0	78.8	26.0	55	SW	11	5.0	.....	.....	4	.....	SW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.13	765.2	81.5	27.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.72	754.9	29.83	757.6	90.0	32.2	50	W	.....	.....	1	.....	1k	.....	W	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.93	760.2	30.00	762.0	56.9	13.8	74	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.64	752.8	29.92	760 0	75	23.9	.....	Calm	0	0	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.98	761.5	30.01	763.0	56	13.3	78	NE	1	0.4	.....	8cs	2ks	Calm	Calm	Inap.	Inap.	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island.	29.95	760 7	29.99	761.7	57	13.9	65	N	10	4.5	.....	.....	8ks	.....	N	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.74	755.4	29.92	760.0	70.8	21.6	73	NE	.....	.....	2	8cs	0	.....	.....	0	0	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.80	756.4	30.02	762.5	57.9	14.4	82	E	.....	.....	2	.....	.....	.....	.....	0	0	Cloudy.....	H. A. Johnson.
Esquimault, B. C	29.85	758.2	29.90	759.4	54.2	12.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.	W. H. Bevis.
*Father Point, Quebec	30.02	762.5	30.04	763.0	50	10.0	82	N	14	6.3	.....	5c	2s	NW	NW	0.10	2.5	Clearing.....	J. McWilliams.
Fredericton, N. B	29.97	761.2	30.03	762.7	63.4	17.4	76	E	8	3.6	.....	6ck	5ks	NW	.....	0	0	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.25	742.9	30.06	763.5	59	15.0	85	NW	12	5.4	.....	0	2ks	.....	NW	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.88	733.5	29.91	759.7	77	25.0	77	S	.....	.....	1	1ks	0	.....	.....	0	0	Clear.	James Grant.
*Halifax, N. S	29.83	757.7	29.96	761.0	63	17.2	71	N	8	3.6	.....	0	2ks	.....	N	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.69	754.8	29.96	761.0	72.7	22.6	74	NW	.....	.....	2	5ck	0	NW	.....	0	0	Clear.	Geo. Dickson, M. A.
Heart's Content, N. F	29.47	748.5	29.50	749.3	50	10.0	71	NW	.....	.....	4	.....	10	.....	.....	0.68	17.3	Overcast.....	E. Weedon.
*Kingston, Ontario	29.63	752.6	29.94	760.5	76	24.4	81	SE	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.87	758.7	29.91	759.7	55.0	13.3	.....	W	16	7.2	.....	6k	0	N	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.76	755.9	29.95	760.7	71	21.7	64	W	2	0.9	.....	2c	2s	NW	.....	Inap.	Inap.	Fair	C. H. McLeod, C. E
*Parry Sound, Ontario	29.24	742.7	29.90	759.4	72	22.2	90	E	3	1.3	.....	2cs	0	W	.....	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.20	741.7	29.91	759.7	76.2	24.6	66	Calm	.....	.....	0	7ck	0	.....	.....	0	0	Fair.	J. F. Jeffers, B. A.
Port Dover, Ontario	29.28	743.7	29.94	760.5	71	21.7	85	N	2	0.9	.....	2ck	0	NW	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	29.89	759.2	29.94	760.5	56.5	13.6	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine....	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.93	760.2	72	22.2	85	N	1	0.4	.....	8k	0	W	.....	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.70	754.4	30.01	762 2	61	16.1	71	NE	.....	.....	2	5cs	5ks	NE	NE	0	0	Cloudy.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.37	746.0	29.81	757.2	70	21.1	75	E	8	3.6	.....	Haze	0	.....	.....	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.92	760.0	29.97	761.2	62	16.7	82	S	3	1.3	.....	0	0	.....	.....	0.03	0.8	Clear.....	Dr. Gove.
St. John, N. B	29.86	758.4	30.02	762.5	64	17.8	73	E	5	2.2	.....	9k	0	.....	.....	0	0	Cloudy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.23	742.4	29.91	759.7	71	21.7	83	S	4	1.8	.....	5k	2s	.....	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.17	740.9	29.91	759.7	69	20.6	84	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.69	728.7	29.91	759.7	70.4	21.3	81	Calm	0	0	.....	3cs;ck	3s	.....	.....	0	0	Clear.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.88	758.9	29.91	759.7	54	12.2	69	NW	9	4.0	.....	0	8ks	.....	N	0	0	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.68	753.3	29.91	760.5	74	23.3	76	Calm	0	0	.....	5ck	5ks	W	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	51.0	10.6	86	W	.....	.....	.....	5c	5s	.....	.....	0.26	6.6	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Albany, New York	29.73	755.1	29.95	760.7	73	22.8	72	N	2	0.9	.....	1ck	2ks	W	W	0.01	0.3	Fair	
Alpena, Michigan	29.23	742.4	29.84	757.9	73	22.8	76	W	1	0.4	.....	8ck	Haze	SW	.....	0	0	Fair	
Atlantic City, New Jersey	29.69	759.2	29.91	759.7	79	26.1	78	NE	11	4.9	.....	2ck	Haze	Calm	Calm	0.14	3.6	Fair	
Augusta, Georgia	29.78	756.4	29.95	760.7	82	27.8	83	S	4	1.8	.....	5ck	5ks	Calm	W	0	0	Cloudy	
Baltimore, Maryland	29.86	758.4	29.90	759.4	83	28.3	60	NE	7	3.1	.....	5c	Haze	Calm	Calm	0.17	4.3	Fair	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	77	25.0	77	NE	10	4.5	.....	2c	0	NW	.....	0	0	Clear	
Bismarck, Dakota	28.38	720.8	30.23	767.8	62	16.7	72	NE	2	0.9	.....	.....	10s	.....	N	0	0	Cloudy	
BoiseCity, Idaho	27.02	686.3	29.90	759.4	62	16.7	50	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.79	756.7	29.94	760.5	75	23.9	56	NE	6	2.7	.....	8cs;ck	0	NW	.....	Inap.	Inap.	Fair	
Brackettville, Texas	28.85	732.8	29.83	757.7	78	25.6	82	E	3	1.3	.....	2c	0	Calm	.....	Inap.	Inap.	Clear	
Breckenridge, Minnesota	29.08	738.6	30.05	763.3	62	16.7	88	N	12	5.4	.....	1ck	0	W	.....	0	0	Clear	
Brownsville, Texas	29.91	759.7	29.98	761.5	81	27.2	87	SE	3	1.3	.....	5c	0	Calm	.....	1.02	25.9	Fair	
Buffalo, New York	29.23	742.4	29.89	759.2	75	23.9	72	SW	4	1.8	.....	2ck	0	W	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	82	27.8	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.72	754.9	29.97	761 2	70	21.1	75	N	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Cairo, Illinois	29.65	753.1	30.02	762.5	87	30.6	76	Calm	0	0	.....	1ck	0	Calm	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	64	17.8	83	SW	.....	.....	1	0	2s	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.19	639.8	29.99	761.7	68	20.0	74	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.68	677.7	30.17	766.3	79	26.1	43	SE	.....	.....	1	10cs	0	Calm	.....	0	0	Cloudy	
Campo, California	27.30	693.4	29.87	758.7	53	11.7	79	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.96	761.0	29.97	761.2	82	27.8	87	SW	12	5.4	.....	2k	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	77	25.0	91	SW	3	1.3	.....	5ck	2s	SE	Calm	0.04	1.0	Cloudy	
Cape Lookout, N. Carolina	29.95	760.7	29.97	761.2	85	29.4	79	SW	19	8.5	.....	5c;k	2ks	W;SW	SW	0.15	3.8	Cloudy	
Cape May, New Jersey	29.89	759.2	29.92	760.0	79	26.1	90	W	5	2.2	.....	8ck	0	W	.....	0.01	0.3	Fair	
Charleston, South Carolina	29.95	760.7	30.01	762.2	77	25.0	91	SW	3	1.3	.....	.....	10n	.....	Calm	0.60	15.2	Light rain	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	66	18.9	54	SW	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
Chicago, Illinois	29.24	742.7	29.89	759.2	77	25.0	77	SW	3	1.3	.....	5k	Sm'e	W	.....	0.09	2.3	Fair	
Cincinnati, Ohio	29.29	744.0	29.90	759.4	79	26.1	74	NW	3	1.3	.....	1c	Sm'e	N	Calm	0	0	Clear	
Cleveland, Ohio	29.21	741.9	29.89	759.2	79	26.1	70	N	2	0.9	.....	5ck	0	.....	.....	0	0	Fair	
Columbus, Ohio	29.12	739.6	29.88	758.9	74	23.3	90	Calm	.....	.....	0	.....	10s	.....	W	0	0	Cloudy	
Concho, Texas	28.10	713.7	29.73	755.1	70	21.1	79	NE	3	1.3	.....	5c	0	E	.....	0	0	Fair	
Corsicana, Texas	29.58	751.3	30.03	762.7	76	24.4	91	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.35	745.5	29.95	760.7	78	25.6	73	Calm	0	0	.....	1c	0	Calm	.....	0.33	8.4	Clear	
Denison, Texas	29.26	744.2	30.02	762.5	78	25.6	82	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Denver, Colorado	24.82	630.4	30.04	763.0	67	19.4	69	E	4	1.8	.....	.....	8s	.....	Calm	0.05	1.3	Cloudy	
Detroit, Michigan	29.27	743.4	29.90	759.4	76	24.4	69	Calm	0	0	.....	5k	2s	Calm	Calm	0	0	Fair	
Dodge City, Kansas	27.48	698.0	29.65	753.1	77	25.0	69	S	8	3.6	.....	5ck	2s	S	Calm	0	0	Fair	
Dubuque, Iowa	29.28	743.7	29.94	760.5	75	23.9	81	NW	2	0.91	.....	.....	10s	.....	Calm	0.41	10.4	Cloudy	
Duluth, Minnesota	29 28	743.7	29.92	760.0	72	22.2	67	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.22	742.2	29.94	760.5	75	23.9	86	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.92	760.0	29.98	761.5	64	17.8	68	E	9	4.0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
El Paso, Texas	.....	.....	.....	.....	80	26.7	43	W	4	1.8	.....	0	0	.....	.....	0.56	14.2	Clear	
Erie, Pennsylvania	29.22	742.2	29.89	759.2	78	25.6	65	SE	5	2.2	.....	8c;ck	0	Calm;S	.....	0	0	Fair	
Escanaba, Michigan	29.26	743.2	29.88	758.9	73	22 8	76	SW	4	1.8	.....	0	8s	.....	SW	0	0	Cloudy	
Florence, Arizona	.....	.....	.....	.....	84	28.9	50	E	.....	.....	1	5ck	5ks	SE	SE	Inap.	Inap.	Cloudy	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.24	641.1	30.20	767.1	69	20.6	71	NW	3	1.3	.....	5cs	0	E	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.52	749.8	30.02	762.5	83	28.8	83	NE	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Fort Griffin, Texas	28.78	731.0	30.00	762.0	73	22.8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.91	759.7	77	25.0	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.98	761.5	30.02	762.5	84	28.9	79	S	3	1.3	.....	0	0	.....	.....	0.52	13.2	Clear	
Grand Haven, Michigan	29.31	744.5	29.93	760.2	72	22.2	76	E	8	3.6	.....	.....	10s	.....	Calm	0.03	0.8	Threatening	
Indianapolis, Indiana	29.21	741.9	29.94	760.5	79	26.1	74	NW	1	0.4	.....	5cs;ck	0	NW	.....	0	0	Fair	
Indianola, Texas	29.98	761.5	30.01	762.2	86	30.0	72	S	5	2.2	.....	2k	0	Calm	.....	0.15	3.8	Fair	
Jacksboro, Texas	28.91	734.3	29.99	761.7	77	25.0	73	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.02	762.5	84	28.9	75	SW	4	1.8	.....	10cs	0	Calm	.....	0.01	0.3	Cloudy	
Keokuk, Iowa	29.34	745.2	29.91	759.7	84	28.9	75	W	7	3.1	.....	0	7s	.....	SW	0	0	Fair	
Key West, Florida	30.00	762.0	30.03	762.7	85	29.4	72	SE	4	1.8	.....	2c	2ks	Calm	SE	0.01	1.0	Fair	
Kittyhawk, North Carolina	29.92	760.0	29.95	760.7	82	27.8	83	SW	11	4.9	.....	2k	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.01	736.8	29.96	761.0	82	27.8	67	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
La Crosse, Wisconsin	29.22	742.2	29.92	760 0	77	25.0	82	S	3	1.3	.....	.....	10s	.....	S	0.53	13.5	Cloudy	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	68	20.0	79	Calm	0	0	.....	5c	0	Calm	.....	0.62	15.7	Fair	
Laredo, Texas	29.54	750.3	29.86	758.4	79	26.1	78	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	25.02	635.5	.....	.....	68	17.2	83	N	1	0.4	.....	5c	0	N	.....	0	0	Fair	
Leavenworth, Kansas	29.15	740.4	29.95	760.7	80	26.7	78	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Los Angeles, California	29.49	749.0	29.82	757.4	62	16.7	83	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.41	747.0	29.93	760.2	83	28.3	67	NW	2	0.9	.....	5c	Sm'e	NW	Calm	0	0	Fair	
Lynchburg, Virginia	29.24	742.7	29.89	759.2	78	25.6	77	SW	2	0.9	.....	0	5ks	.....	Calm	0	0	Fair	
Marquette, Michigan	29.16	740.7	29.81	757.2	78	25.6	78	W	8	3.6	.....	5k	0	W	.....	0	0	Fair	
Mason, Texas	28.36	720.3	30.05	763.3	74	23.3	100	SE	7	3.1	.....	.....	10n	.....	SE	0.55	14.0	Light rain	
Memphis, Tennessee	29.73	755.1	30.02	762.5	86	30.0	75	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.23	742.4	29.91	759.7	78	25.6	78	Calm	0	0	.....	5c	Haze	.....	.....	0	0	Fair	
Mobile, Alabama	30.00	762.0	30.05	763.3	82	27.8	79	S	5	2.2	.....	10c	0	Calm	.....	0	0	Cloudy	
Montgomery, Alabama	29.76	755.9	29.98	761 5	82	27.8	78	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	28.91	734.5	29.90	759.4	77	25.0	77	Calm	0	0	.....	2c	Haze	W	Calm	0.11	2.8	Fair	
Mt. Washington, N. H.	23.93	607.8	30.29	769.4	48	8.9	71	N	10	4.5	.....	2c	5ks	NW	N	0	0	Fair	
Nashville, Tennessee	29.49	749.0	29.99	761.7	84	28.9	75	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.84	757.9	29.96	761.0	75	23.9	68	N	7	3.1	.....	5c	0	.....	.....	0	0	Fair	
New London, Connecticut	29.83	757.2	29.93	760.2	79	26.1	68	N	4	1.8	.....	6cs	0	NW	.....	0	0	Fair	
New Orleans, Louisiana	29.98	761.5	30.04	763.0	82	27.8	79	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.88	758.9	29.93	760.2	76	24.4	60	N	7	3.1	.....	2c	0	NW	.....	0	0	Clear	
New York, New York	29.80	756.9	29.97	761.2	80	26.7	51	NE	15	6.7	.....	4c;cs	Haze	SW;Calm	Calm	0	0	Fair	
Norfolk, Virginia	29.89	759.2	29.94	760.5	81	27.2	78	W	3	1.3	.....	2ck	2s	Calm	Calm	Inap.	Inap.	Fair	
North Platte, Nebraska	27.18	690.1	29.60	751.8	74	23.3	95	SE	8	3.6	.....	.....	10s	.....	E	0	0	Clear	
Olympia, Washington Ter	29.91	759.7	29.95	760.7	52	11.1	93	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.87	733.3	29.89	759.2	78	25.6	91	Calm	0	0	.....	.....	10s	.....	Calm	0.06	2.0	Cloudy	
Oswego, New York	29.65	753.1	29.96	761.0	73	22 8	81	S	5	2.2	.....	10c	0	NW	.....	0	0	Cloudy	
Pembina, Dakota	29.27	743.4	30.09	764.3	53	11.7	86	NW	12	5 4	.....	0	5s	.....	NW	0	0	Fair	
Philadelphia, Pennsylvania	29.89	759.2	29.93	760.2	80	26.7	61	NE	14	6.3	.....	1cs	Haze	NW	Calm	0.10	2.5	Clear	
Phœnix, Arizona	.....	.....	.....	.....	85	29.4	57	SE	.....	.....	1	8c	0	S	.....	0	0	Fair	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	33	3.3	45	SW	15	6.7	.....	10cs	0	SW	.....	0.48	12.2	Cloudy	
Pioche, Nevada	24.10	612.1	29.87	758.7	61	15.6	15	SW	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.12	739.6	29.89	759.2	77	25.0	77	NW	3	1.3	.....	1c	0	NW	.....	0	0	Clear	
Port Huron, Michigan	29.26	743.2	29.89	759.2	72	22.2	80	Calm	0	0	.....	10ck	Sm'e	W	.....	0	0	Cloudy	
Portland, Maine	29.90	759.4	29.95	760.7	72	22.2	67	NE	10	4.5	.....	2k	Haze	NW	.....	0	0	Fair	
Portland, Oregon	29.92	760.0	30.03	762.7	58	14.4	88	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy	
Prescott, Arizona	24.79	629.6	30.15	765.8	67	19.4	46	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Upper. 0–10	Clouds. Amount. Low'r. 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Rassa, Florida	30.04	763.0	30.06	763.5	84	28.9	71	S	3	1.3	.....	2c	2ks	W	Calm	0.82	20.8	Fair	
Red Bluff, California	29.44	747.8	29.79	756.7	69	20.6	43	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.32	744.7	29.90	759.4	77	25.0	69	SW	3	1.3	.....	5ck	0	Calm	.....	0	0	Fair	
Roseburg, Oregon	29.46	748.3	30.01	762.7	51	10.6	96	Calm	0	0	.....	0	1s	.....	Calm	0	0	Fair	
Sacramento, California	29.71	754.6	29.79	756.7	60	15.6	77	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.44	747.8	29.98	761.5	80	26.7	70	W	9	4.0	.....	2c	2s	Calm	Calm	0.03	0.8	Fair	
St. Marks, Florida	30.01	762.2	30.03	762.7	79	26.1	91	Calm	0	0	.....	5c	1s	E	Calm	0	0	Fair	
St. Paul, Minnesota	29.12	739.6	29.90	759.4	74	23.3	81	NW	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	71	21.7	87	SE	6	2.7	.....	2k	2ks	W	S	0	0	Fair	
San Antonio, Texas	29.29	744.0	29.86	758.4	76	24.4	100	NE	2	0.9	.....	2c	5s	Calm	SE	0.20	5.1	Clearing	
San Diego, California	29.79	756.7	29.86	758.4	63	17.2	94	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sandusky, Ohio	29.29	744.0	29.92	760.0	79	26.1	87	N	3	1.3	.....	5ck	1s	N	Calm	0	0	Fair	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	77	25.0	75	NE	16	7.2	.....	5c;k	0	NW	.....	0	0	Fair	
San Francisco, California	29.78	756.4	29.84	757.9	55	12.8	87	W	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.42	595.1	29.97	761.2	68	14.4	70	Calm	0	0	.....	1k	0	Calm	.....	0.48	12.2	Clear	
Savannah, Georgia	29.91	759.7	30.00	762.0	83	28.3	83	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.83	757.7	30.04	763.0	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.32	617.7	30.31	769.9	64	17.8	78	S	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Smithville, North Carolina	29.97	761.2	30.00	762.0	83	28.3	83	SW	11	4.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.78	756.4	29.90	759.4	75	23.9	60	N	3	1.3	.....	8c	0	NW	.....	0	0	Cloudy	
Stockton, Texas	26.95	684.5	29.95	760.7	70	21.1	48	SE	12	5.4	.....	8k	0	S	.....	0	0	Clear	
Thatcher's Island, Mass.	29.91	759.7	29.96	761.0	66	18.9	84	N	4	1.8	.....	3c;ck	0	NW	.....	0	0	Fair	
Toledo, Ohio,	29.25	742.9	29.89	759.2	78	25.6	82	N	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Tucson, Arizona	27.94	694.4	29.89	759.2	80	26.7	68	SE	.....	.....	2	2cs	5s	Calm	Calm	0	0	Fair	
Tybee Island, Georgia	29.96	761.0	29.99	761.7	82	27.8	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Fair	
Umatilla, Oregon	29.48	748.8	.....	.....	64	17.8	63	SE	8	3.6	.....	5ks	0	SW	.....	0	0	Threatening	
Vicksburg, Mississippi	29.82	757.4	30.00	762.0	83	28.3	83	Calm	0	0	.....	0	0	.....	.....	0	0	Fair	
Virginia City, Montana	24.34	618.2	29.82	757.4	60	15.6	60	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.46	748.3	29.82	757.4	62	16.7	72	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.83	757.7	29.94	760.5	76	24.4	91	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	81	27.2	48	Calm	.....	.....	0	8ck	0	W	.....	1.10	27.9	Cloudy	
Wilmington, N. Carolina	29.89	759.2	29.97	761.2	82	27.8	83	W	6	2.7	.....	10as	0	Calm	.....	0	0	Cloudy	
Winnemucca, Nevada	.....	.....	.....	.....	53	11.7	86	SW	6	2.7	.....	2k	5s	Calm	SW	0	0	Fair	
Wood's Holl, Mass.	29.86	758.4	29.91	759.7	75	23.9	76	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.72	729.5	29.94	760.5	70	21.4	86	NW	3	1.3	.....	2ck	0	NW	.....	0.19	4.8	Clear	
Yuma, Arizona	29.53	750.0	29.68	753.9	81	27.2	58	Calm	0	0	.....	5c	0	NW	.....	Inap.	Inap.	Fair	
Sub-Series.												2cs	0	Calm	.....	0	0	Fair	
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	30.01	762.2	30.06	763.5	65.0	18.3	73	NE	15	6.7	.....	2k	2s	NE	NE	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.99	761.7	30.01	762.2	83	28.3	74	SE	3.6	1.6	.....	8c	0	NE	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	80	26.7	86	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I.	29.90	759.4	29.98	761.5	84	28.9	.....	E	11.2	5.0	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.01	762.2	30.01	762.2	81	27.2	87	SE	2	0.9	.....	3c	5k	Calm	.....	1.000	25.40	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A.	25.20	640.1	.....	.....	66.0	18.9	82	Calm	0	0	.....	.....	10s;ks	.....	.....	0.05	1.3	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?)60 ft., or 533.4 m.; Denver, 5,102 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. 1,7 m.; Camp Grant, 4,838 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.3 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,149.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,530 944.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,396 (?) ft., or 2,102.6 (?) m.; Stockton, 3,100 (?) ft., or (?) ft., or 1,700.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.83 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.81	757.2	57	13.9	53.5	11.9	100	SW	15	6.7	.....	.....	10	.....	SW	.....	.....	.....	.....	Dense fog ...	
Navy Yard, Pensacola, Fla.	30.20	767.1	83	28.3	83	28.3	85	N	2	0.9	.....	.....	5	.....	NE	0.04	1.0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.97	761.2	79	26.1	75	23.9	60	NE	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	30.03*	762.7*	79	26.1	79	26.1	80	SW	.....	.....	6	.....	2k;ck	.....	W	0	0	.....	.....	Fair	
Adams. Apia, Samoan Islands...	30.00	762.0	80	26 7	78	25.6	100	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France.....	30.02‡	762.5‡	.....	.....	76	24.4	82	ESE	.....	.....	3	.....	2	.....	E	.....	.....	.....	.....	Misty.....	
Ashuelot. Nagasaki, Japan.....	30.04	763.0	75	23.9	73	22.8	90	NL	.....	.....	1	.....	5	.....	NE	.....	.....	.....	.....	Lightning....	
Alaska, S. 9° 07′, W. 34° 22′..... ...	30.18	766.6	78	25.6	76	24.4	82	SE	.....	.....	6	.....	5	.....	SE	0.22	5.6	Heavy	SE	D. clouds.....	
Canonicus, New Orleans, La.....	30.06	763.5	57	13.9	81	27.2	91	S	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.....	29.96‡	761.0‡	.....	.....	79	26.1	57	NE	8	3.6	....	.....	5	.....	WNW	0	0	.....	.....	Hazy	
Constitution, Havre, France	30.08‡	764.0‡	.....	.....	79	26.1	62	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Despatch, Prince's Islands, Sea of Marmora	29.91‡	759.7‡	.....	.....	73	22.8	81	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Franklin, Norfolk, Va.....	30.09	764.3	80	26.7	80	26.7	82	WNW	9	4.0	.....	.....	8	.....	W	0	0	.....	.....	D.clouds.....	
Gettysburg N. 35° 39′, E. 20° 00′..... ...	29.95‡	760.7‡	.....	.....	77	25.0	100	NW	.....	.....	1	.....	0	.....	.....	0	0	Long	NNW	Clear	
Hartford, Rio de Janeiro, Brazil ...	30.05	763.3	.....	.....	75	23.9	77	N	2.4	1.1	.....	.....	10	.....	NW	0	0	.....	.....	Cloudy.....	
Marion, Villefranche, France	30.06	763.5	81	27.2	80	26.7	70	ESE	.....	.....	1	.....	2	.....	ESE	0	0	.....	.....	Fair	
Michigan, Buffalo, N. Y.....	29.54	750.3	78	25.6	76	24.4	86	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	30.04‡	763.0‡	.....	.....	79	26.1	86	SSW	.....	.....	3-4	.....	2	.....	SW	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.....	30.20†	767.1†	.....	.....	79	26.1	82	SE	7	3.1	.....	.....	8	.....	SE	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....	30.09†	764.3†	.....	.....	60	15.6	88	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.86	758.4	90	32.2	87	30.6	72	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.89	759.2	60	15.6	55	12.8	??	SW	10	4.5	.....	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Plymouth. New York, N. Y..... ...	29.96‡	761.0‡	.....	.....	79	26.1	63	NE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Clear.	
Ranger. Hong-Kong, China.....	30.01*	762.2*	.....	.....	85	29.4	96	ESE	.....	.....	1-2	.....	4	.....	Calm	.....	.....	.....	.....	D. clouds....	
Rio Bravo. Brownsville, Texas.....	29.94	760.5	78	25.6	79	26.1	95	ENE	.....	....	1	.....	9	.....	Calm	.....	.....	.....	.....	Cloudy.	
Santee, Annapolis, Md...	29.92‡	760.0‡	.....	.....	78	25.6	86	N	.....	.....	1	.....	8	....	W	0.01	0.3	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.92	760.0	81	27.2	81	27.2	66	NE	10	4.5	.....	.....	2	.. ..	NE	0.17	4.3	.....	.....	Fair.....	
Supply, Havre, France.....	30.10	764.5	78	25.6	80	26.7	66	SE	.....	. ....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear..... ...	
Swatara, Boston, Mass.....	29.96‡	761.0‡	.....	.....	73	22.8	85	NNE	.....	.....	2	.....	5	.....	N;E	.....	.....	.....	.....	Fair	
Trenton, N. 36° 44′, W. 1° 56′..... .	29.95‡	760.7‡	.....	.....	79	26.1	87	SW	.....	.....	3-4	.....	0	.....	.....	0	0	.....	.....	Clear.	
Tuscarora, Acapulco, Mexico.....	29.70	754.4	80	26.7	81	27.2	78	ESE	.....	.....	2	.....	10	.....	ESE	0.08	2.0	.....	.....	Cloudy.....	
Vandalia, Beirut, Syria.....	29.79‡	756.7‡	.....	.....	83	23.3	60	W	.....	.....	2	.....	2	.....	W	.....	.....	Long	W	Clear	
Wabash, Boston, Mass.....	29.92‡	760.0‡	.....	.....	72	22.2	62	N	8	3.6	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy.....	
Wyoming, N. 46° 40′, W. 46° 20′.....	29.17	740.9	62	16.7	53	11.7	93	W	.....	.....	5	.....	10	....	W	.....	.....	Rough	SSW	Misty.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 22° 16′, E. 114° 39′		29.90*	759.4*	86	30.0	100	SSE			4		5		SSE	2 hours	Light	SE	Showery	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking																			Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 20° 11′, W. 105° 43′		29.90†	759.4†	82	27.8	87	NE			2		5		N	Blank	Small	SSE	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 26° 37′, W. 149° 03′		30.47‡	773.9‡	76	24.4	95	ENE			5		2		NE	0	Mod'ate	ENE	Clear	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Adriatic, N. 51° 15′, W. 13° 38′		30.13*	765.3*	63	17.2	94	NE			3			NE			Small	SW	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 40° 28′, W. 73° 47′		30.03†	762.7†	77	25.0	86	SSE			2			S		0	None		D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Belgic, S. S. Gaelic, N. 45° 30′ W. 178° 00′		29.50*	749.3*	56	13.3	63	SW			5		k;hz		W	Heavy	Following	W	Squally	Capt. L. Myer.
S. S. Oceanic																			Capt. W. H. Kidley.
																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	Up'er 0–10.	Lo'wr 0–10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 39° 48′, W. 72° 08′		30.11*	764.8*	69	20.6	95	NW			1		2		NW	Light	Light	W	Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 50° 17′ W. 23° 42′		30.25	768.3	71	21.7	95	E			1		10		E	0	None		Overcast	Captain Morrison.
S. S. Pennsylvania, N. 50° 20′, W. 25° 42′		30.21†	767.3†	66	18.9	95	SSE			3		6?		SSE	0	Light	SE	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Rundle.
S. S. Switzerland, N. 47° 37′, W. 30° 44′		30.12*	765.0*				S	25	11.2			10		W		Slight	W	Light rain	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgen sen.
Schooner Florence, N. 65° 10′, W. 62° 30′		30.07*	763.8*	40.0	4.4	88	S			1	4c	0	NE		0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 21, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:40 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.02	762.6	69.8	21.0	84	NE	.....	.....	5	.....	1	.....	.....	0	0	Very fair	Dr. Olive.
Nemours	.....	.....	29.98	761.5	84.6	29.2	63	N	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Michel.
Algiers	.....	.....	29.92	759.9	80.2	26.8	79	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	29.98	761.6	87.4	30.8	67	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.04	763.1	96.8	36.0	.....	E	.....	.....	4	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.15	765.7	86.0	30.0	.....	E	.....	.....	3	.....	5	.....	.....	0	0	Cloudy	Gau.
Saida	.....	.....	30.05	763.3	93.0	34.4	24	N	.....	.....	1	.....	7	.....	.....	0	0	Very cloudy	Herbin.
Tebessa	.....	.....	30.04	763.1	93.6	34.2	16	NNW	.....	.....	4	.....	6	.....	.....	0	0	Cloudy	Watrin.
Geriville	.....	.....	30.11	764.7	100.4	38.0	.....	S	.....	.....	7	.....	6	.....	.....	0	0	Cloudy	Brugnaux.
Laghouat	.....	.....	30.10	764.4	100.0	37.8	19	W	.....	.....	3	.....	1	.....	.....	0	0	Very fair	Bertrand.
Biskra	.....	.....	30.08	763.9	100.4	38.0	.....	SE	.....	.....	3	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.56	750.9	30.09	764.2	82.2	27.9	50	SE	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. Ivan Stoan
Cracow	29.34	745.2	30.07	763.6	73.8	23.2	52	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski.
Eperies	29.21	742.0	30.05	763.3	76.8	24.9	51	SE	.....	.....	3	.....	1cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.89	733.7	30.09	764.3	74.8	23 8	74	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.72	729.6	30.09	764.3	73.9	23.3	37	N	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.70	728.9	29.98	761.5	74.5	23.6	56	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	29.08	738.7	30.04	763.1	67.3	19.6	61	NW	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.95	760.7	30.06	763.4	89.4	31.9	47	S	.....	.....	1	.....	7ck;s	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.69	754.0	30.13	765.3	79.2	26.2	33	NW	.....	.....	4	.....	7	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.98	761.6	30.09	764.2	86.0	30.0	54	W	.....	.....	1	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.42	747.2	30.10	764.6	77.4	25.2	43	ESE	.....	.....	1	.....	2	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.58	723.8	30.01	762.3	77.0	25.0	46	E	.....	.....	1	.....	8	.....	.....	0.003	0.2	.....	Prof. M. Passau.
Brussels	29.81	757.1	30.00	762.0	80.4	26.9	46	E	.....	.....	3	3	.....	SW	.....	0	0	.....	Royal Observatory
Furnes	30.00	762.1	30.03	762.7	82.8	28.2	50	ESE	.....	.....	1	.....	4	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.96	760.9	30.08	764.1	78.3	25.7	61	ESE	.....	.....	2	.....	5	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.02	762.5	30.12	765.0	59.6	15.3	.....	ESE	7	3.1	.....	.....	9	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.12	765.0	67.9	19.9	.....	NE	6	2.7	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.04	763.0	82.4	28.0	.....	ESE	7	3.1	.....	.....	0	.....	.....	.....	.....	Blue sky	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.08	764.0	75.2	24.0	.....	NNE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	84	28.9	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.04	763.0	80.0	26.7	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	H. Todd. [H.C.
Cardington	.....	.....	30.03	762.7	82.0	27.8	.....	NE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham, School M. E.	29.89	759.2	30.02	762.5	73.2	22.9	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	Blue sky	Lt. W. G. Morris, R. E.
Dartmoor	28.58	725.9	29.99	761.7	72.0	22.2	.....	E	.....	.....	4	.....	3	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	30.08	764.0	30.10	764.5	61	16.1	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	70	21.1	.....	E	.....	.....	3	.....	2	.....	.....	.....	.....	¼ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	30.03	762.7	85.6	29.8	.....	SE	2.2	1.0	.....	.....	.....	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Falmouth, Observatory	29.76	755.9	29.99	761.7	69.0	20.6	.....	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.62	701 5	29.92	760.0	71.0	21.7	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.77	756.1	30.00	762.0	85	29.4	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.06	763.5	76	24.4	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.92	760.0	29.97	761.2	83.7	28.7	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.97	761.2	30.17	766.3	68.0	20.0	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.11	764.8	30.11	764.8	68	20.0	.....	ENE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.86	758.4	30.02	762.5	79.2	26.2	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.74	755.4	29.96	761.0	68.5	20.3	.....	ESE	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.04	763.0	74	23.3	.....	NE	.....	.....	0	.....	3k	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.03	762.7	30.07	763.8	63	17.2	.....	N	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.71	754.6	30.00	762.0	70.6	21.4	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	30.02	762.5	75.9	24.4	.....	E	25	11.2	.....	.....	5	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	30.09	764.3	30.12	765.0	63	17.2	.....	E	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	George Mitchell.
Leicester, Museum	.....	.....	30.04	763.0	81.2	27.3	.....	NE	.....	.....	1	.....	.....	.....	.....	.....	.....	Blue sky	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.99	761.7	30.06	763.5	84.5	29.2	.....	NW	.....	.....	1	.....	3k	.....	.....	.....	.....	D. clouds	Sgt. Howitt A. H. C.
Nairn	30.00	762.0	30.09	764.3	71	21.7	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.04	763.0	86.0	30.6	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.91	759.7	30.09	764.3	84.6	29.2	.....	SSE	.....	.....	5	.....	1ck	.....	SSE	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.52	749.8	30.02	762.5	81.0	27.2	.....	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.02	762.5	80	26.7	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky	H. E. Bellamy.
Plymouth	29.91	759.7	29.98	761.5	72.6	22.6	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	30.04	763.0	30.08	764.0	74	23.3	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	Fine	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.12	765.0	59.8	15.4	.....	WSW	10	4.5	.....	.....	8	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL.D.
Scutari, Cemetery, (Turkey)	.....	.....	30.11	764.8	83.4	28.6	.....	N	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.81	757.2	30.09	764.3	80.8	27.1	.....	S	.....	.....	1	.....	1	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.03	762.7	30.06	763.5	87.2	30.7	63	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky	C. Edith Redford.
Stonyhurst, Observatory	29.67	753.6	30.08	764.0	81.0	27.2	.....	ESE	.....	.....	2	.....	.....	.....	.....	.....	.....	Hazy	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	30.06	763.5	30.09	764.3	64	17.8	.....	NNW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.80	756.9	30.01	762.2	81.9	27.7	.....	SE	.....	.....	1-2	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.11	764.8	63	17.2	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	30.02	762.5	80	26.7	.....	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	30.06	763.5	75.0	23.9	.....	N	15	6.7	.....	.....	3	.....	.....	.....	.....	Hazy	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.52	749.8	56.0	13.3	93	NW	.....	.....	2	.....	10n	.....	.....	0.4	10.	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.90	759.4	30.09	764.2	72.4	22.4	66	ESE	9.0	4.0	.....	0	2	.....	ESE	0.08	2.0	Fine	C. Meldrum.
Melbourne, Observatory	29.72	758.9	29.82	757.4	64.0	12.2	69	N	27	12.1	.....	.....	10	.....	.....	0.01	0.3	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngchause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE.—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 42° 40', W. 58° 0'	2	Smooth	Blue sky	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 52° 50' W. 48° 30'	8	N&E	Raining	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian, N. 54°, 50' W. 13° 50'	1	Smooth	D. clouds	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 53° 5', W. 50° 15'	7	NNE	Raining	Capt. Alex. Simpson.
Barque Virginia, N. 49° 45', W. 20° 40'	2	S	D. clouds	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.22	666.0			68.4	20.2	91	NE			1	2c	6ck			Inap.	Inap.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.03	762.8	30.08	764.0	68.2	20.1	62	NW			2		3						
Fanöe	29.87	758.8	29.89	759.3	64.6	18.1	75	W			4		7						
Godthaab, (Greenland)	29.69	754.0	29.73	755.1	47.8	8.8		S			4		1						
Stykkisholm, (Iceland)	29.84	757.8	29.88	758.9	48.9	9.4	63	NW			2		0						
Thorshavn, (Faröe)	29.89	759.3	29.94	760.2	53.2	11.8	97	SW			5		10					Rain & fog	
Vestervig	29.91	759.7	30.08	764.0	58.6	14.8	91	WNW			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.51	749.5	30.06	763.5	77.0	25	87	SW			1		8		SW	0.181	4.6	Very cloudy	Collignon, Director.
Amiens, Normal School	29.89	759.1	29.99	761.7	86.0	30.0	67	NE			2		2		NE	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.93	760.2	30.01	762.2	88.2	31.2	61	SSW			2		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine																0.608	0.2		C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.72	755.0	29.99	761.8	79.7	26.5	61	S			1		8		S	0	0	Very cloudy	Normal School.
Besançon	29.14	740.1	29.97	761.3	85.3	29.6	51	SE			4		2		NW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.16	740.7	30.11	764.7	86.0	30	71	S			2		5k		S	0	0	Cloudy	Normal School.
Bourges, Normal School	29.45	748.0	30.02	762.5	75.6	24.2	77	SSW			2		n		SSW	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.66	753.4	29.91	759.6	77.7	25.4	68	E			1		6		E	1.563	39.75	Stormy	The Staff.
Carcassonne, Normal School	29.56	750.7	29.95	760.6	85.3	29.6	49	E			2		2		NE	0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.39	746.4	29.93	760.1	77.0	25	92	SE			2		9		NW	0.264	6.7		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.69	754.1	29.99	761.8	79.2	26.2	58	Calm			0		8ck			0.205	5.2	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.63	727.3	29.91	759.7	82.4	28.0	53	N			2		8		SW	0.165	4.2	Very cloudy	Allnard, Director.
Commercy, Normal School	29.15	740.4	29.98	761.6	79.2	26.2	70	E			4		2		W	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.97	735.9	30.11	764.9	69.1	31.7	36	SE			4		5		SE	0	0	½ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.84	757.8	30.04	763.0	73.4	23.0	66	SW			4		5		NW	0	0	Cloudy	Moullot, Director.
Le Mans, Normal School	29.68	753.9	29.98	761.4	72.3	22.4	67	W			4		8		W	0.012	0.30	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.13	739.8	30.02	762.5	81.7	27.6	57	S			2		2		E	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.00	759.4	30.00	761.9	75.6	24.2	72	S			3		8		S	0	0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.31	744.4	29.95	760 8	82.9	28.3	70	N			2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	28.98	736.0	29.98	761.5	78.3	25.7	57	NE			2		5		SW	0	0	Cloudy	Normal School
Nismes, Normal School	29.82	757.3	30.00	762.1	88.5	31.4	41	S			6		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.58	751.4	29.95	760.6	83.3	28.5	68	W			1		10			0.08	2	Covered	Bernard, Director.
Paris, Observatory	29.75	755.6	29.98	761.4	76.8	24.9	69	NW			1		5		S	0.006	0.15	Cloudy	National Observatory.
Privas	29.04	737.7	30.05	764.3	82.4	28	36	S			2		1		S	0	0	Clear	Normal School
Puy de Dome (Summit)																			Allnard, Director.
Rochefort, Naval Obs'y	30.00	762.0	30.03	762.8	79.9	26.6	39	SW			2		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	29.89	759.3	29.98	761.4	77.7	25.4	55	ENE			1		2		SE	0	0	Slightly cl'dy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.99	736.4	30.07	763.7	78.8	26	67	SSW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.27	743.4	29.95	760.6	81.3	27.4	66	SE			4				NW	0	0		M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.85	758.2	82.4	28										0	0		L'Abbé Marchés.
Lyons																			L. Jays.
Marseilles, Observatory			30.01	762.3	82.6	28.1	59	S			2-3		2			0	0		The Staff.
Mont-Louis	24.96	634.0	30.28	769.0	76.6	24.8	27	SSW	7.4	3.33			0			0	0		M. Cave.
Nice			30.08	764.1	79.9	26.6	77	SE			1		3			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.71	754.6	29.98	761.6	78.4	25.8	75	Calm			0		4		S	0.016	0.4		Marié Davy, Director
Perpignan			29.99	761.8	80.6	27.0	69	SE	18.6	8.33			4		SE	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.4			63.9	17.7		S			1		0			0	0	Clear	Gen'l de Nansouty.
Saint Maur, (near Paris)	29.82	757.4	29.98	761.6	78.1	25.6	66	W			1		3		S	0.094	2.4		E. Renou.
Toulouse, Observatory	29.32	744.6	30.04	763.0	75.7	24.3	72	NNW			1		8			0	0		The Staff.
Tours	29.80	756.9	30.00	761.9	73.0	22.8	62	W			1		10		W	0.008	0.2		C. Marquet.
Versailles, (near Paris)			30.00	762.0	78.4	25.8	62	SW			1		9			0.056	1.42	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.88	758.9	29.90	759.5	77.2	25.1	90	E	5.1	2.3			2k			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,054.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,339 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:59, instead of 0:55, p. m., local time. *Bouches-du-Rhône. † Observation not simultaneous.

GERMAN SERIES.

Furnished by the cooperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.26	743.1	30.10	764.6	79.5	26.4	53	SE	.....	.....	3	.....	2	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.95	760.8	30.12	765.0	75.4	24.4	53	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.62	752.4	30.15	765.9	75.0	23.9	52	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.59	751.5	29.99	761.8	79.7	26.5	58	NE	.....	.....	2	.....	5	.....	.....	0	0	.....	Albert Senz.
Cassel	29.48	748.8	30.09	764.3	79.2	26.2	52	E	.....	.....	2	.....	2	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.90	759.5	30.07	763.6	81.5	27.5	47	E	.....	.....	3	.....	8	.....	.....	0	0	.....	Director Lose.
Emden	30.01	762.2	30.05	763.2	76.3	24.6	60	N	.....	.....	0	.....	0	.....	.....	0	0	.....	Physical Society.
Frankfort on the Main	29.74	755.5	30.09	764.3	81.7	27.6	.....	E	.....	.....	3	.....	3	.....	.....	0	0	.....	M. Wilhelm.
Friedrichshafen	28.63	727.1	30.00	761.9	75.0	24.2	69	SW	.....	.....	.....	.....	2	WSW	.....	0	0	.....	.....
Hamburg	30.07	763.7	30.13	765.4	71.2	21.8	82	N	.....	.....	1	.....	8k	.....	.....	0	0	Dust-haze...	Captain F. Hegemann.
Kiel	30.10	764.5	30.11	764.9	69.6	20.9	75	WNW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.97	761.1	30.04	763.1	71.8	22.1	50	W	.....	.....	2	.....	2	.....	.....	Inap.	Inap.	.....	Prof. E Luther.
Köslin	.....	.....	30.13	765.3	63.1	17.3	.....	NW	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.73	755.2	30.14	765.6	77.2	25.1	52	NE	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.97	761.2	30.02	762.4	64.9	18.3	68	NW	.....	.....	4.5	.....	2ks	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	30.04	762.9	30.05	763.3	66.2	19.0	75	NE	.....	.....	3	.....	4	WSW	.....	0	0	.....	A. Lothes.
Posen	29.85	758.3	30.13	765.3	75.2	24.0	52	WSW	.....	.....	5	.....	5	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.50	749.4	30.03	762.7	80.8	27.1	49	NE	.....	.....	2	.....	6	SW	.....	0	0	.....	Astronomical Observatory.
Stuttgart	29.12	739.6	30.01	762.2	81.5	27.5	43	F	.....	.....	1	.....	2	W	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.37	746.1	29.89	759.3	83.8	28.8	38	ESE	.....	.....	4	.....	8	.....	.....	0.004	0.11	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.60	726.5	30.04	763.1	78.8	25.7	42	SSE	2	1	.....	.....	5ck	.....	W	0	0	.....	Dr. Von Bebber.
Wustrow, Naval School	30.13	765.4	30.17	766.4	64.0	18.1	78	W	.....	.....	2	.....	0	.....	.....	0	0	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.67	753.7	30.05	763.2	88.9	31.6	.....	NE	.....	.....	3.5	.....	.....	.....	.....	.....	.....	Clear.	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.48	749.0	29.53	750.0	88.2	31.2	71	WSW	37?	16.5?	.....	.....	3	.....	WSW	0	0	D. clouds	.....
Deesa	29.07	738.4	29.54	750.2	90.3	32.4	63	SE	.....	.....	.....	.....	10	SE	SE	0	0	Thunder	.....
Bombay	29.62	752.3	29.66	753.2	80.9	27.2	88	WSW	30	13.4	.....	.....	10	.....	SSW	2.19	73.9	Overcast	.....
Poona	27.66	702.6	29.66	753.4	75.4	24.1	80	W	.....	.....	.....	.....	10	.....	W	0	0	Overcast	.....
Lahore	28.68	728.4	29.38	746.1	103.3	39.6	42	NE	3.2	1.4	.....	.....	0	.....	.....	0	0	Misty	.....
Belgaum	27.21	691.1	29.76	755.8	72.1	*22.3	95	W	10	4.5	.....	.....	10	.....	W	0.16	4.1	Showery	.....
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.56	725.4	29.43	747.5	89.0	31.7	71	Calm	3.0	1.3	.....	.....	0	.....	.....	0	0	.....	.....
Agra	28.86	733.1	29.40	746.7	102.6	39.2	41	E	2	0.9	.....	.....	.....	.....	E	0	0	.....	.....
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.51	724.2	29.54	750.2	85.6	29.8	78	Calm	5.8	2.6	.....	.....	9	.....	E	1.20	30.5	D. clouds	.....
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	29.11	739.4	29.47	748.6	92.2	33.4	64	E	5.8	2.6	.....	.....	7	ESE	.....	0	0	D. clouds	.....
Allahabad	29.20	741.7	29.51	749.5	84.6	29.2	80	SE	2.5	1.1	.....	.....	10	.....	.....	0.13	3.3	Overcast	.....
Patna	29.36	745.8	29.54	750.3	90.5	32.5	73	E	1.3	0.6	.....	.....	10	E	E	0	0	Overcast	.....
Hazaribagh	27.59	700.8	29.58	751.4	78.8	26.0	86	ESE	6.7	3.0	.....	.....	10	.....	S	0	0	Thunder	.....
Cuttack	29.52	749.7	29.60	751.8	89.1	31.7	63	SE	2.0	0.9	.....	.....	4	.....	.....	0	0	D. clouds	.....
Calcutta (Alipore)	29.58	751.4	29.61	752.0	85.7	29.8	84	SW	1.0	0.4	.....	.....	8	S	.....	0	0	D. clouds	.....
Goalpara	29.24	742.6	29.62	752.4	81.5	27.5	88	S	1.5	0.7	.....	.....	5	W	.....	1.70	43.2	D. clouds	.....
Chittagong	29.59	751.3	29.67	753.6	85.1	29.5	83	ESE	5.9	2.6	.....	.....	10	.....	.....	0	0	Gloomy	.....
Sibsagar	29.33	745.0	29.66	753.5	82.9	28.3	85	SW	4.1	1.8	.....	.....	10	.....	.....	2.51	63.8	Drizzling	.....
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.21	716.6	29.56	750.8	82.0	27.8	79	SE	2.0	0.9	.....	.....	10	.....	.....	0.03	0.8	Overcast	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.1	30.08	764.1	84.6	29.2	46	SW	1.3	0.6	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.97	761.1	30.07	763.8	82.8	28.2	56	SE	1.3	0.6	.....	.....	9	NW	.....	0.016	0.4	.....	Prof. Dott. Lorenzoni
Vicenza	29.89	759.1	30.07	763.8	82.8	28.2	47	E	1.8	0.8	.....	.....	2	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.80	731.4	30.05	763.3	82.8	28.2	51	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	29.20	741.7	30.07	763.7	81.1	27.3	58	NNE	4.9	2.2	.....	.....	5	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.22	716.9	30.05	763.2	80.4	26.9	51	WNW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.88	758.9	30.09	764.3	79.5	26.4	62	ESE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.91	759.7	30.07	763.8	80.8	27.1	65	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.77	756.2	30.07	763.8	83.1	28.4	44	NE	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.80	757.0	30.05	763.2	84.6	34.8	28	NW	.....	.....	2	.....	10	N	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.07	761.3	30.05	763.3	81.1	27.3	69	WNW	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.02	762.5	30.07	763.7	79.7	26.5	79	NE	.....	.....	.....	.....	5	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.67	725.7	30.07	763.6	80.8	27.1	61	NE	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.89	759.1	30.06	763.4	89.4	31.9	29	W	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.87	758.8	30.07	763.7	86.5	30.3	57	S	.....	.....	2	.....	1	ENE	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	85.3	29.6	40	NNW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.82	757.5	30.01	762.2	82.6	28.1	74	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.18	741.2	30.02	762.5	91.6	33.1	57	NW	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.84	757.7	30.08	763.9	80.6	27.0	61	E	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.98	761.5	30.06	763.4	82.6	28.1	61	SE	.....	.....	1	.....	2	NW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.53	750.0	30.08	764.1	86.7	30.4	53	SSW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.81	757.2	30.00	762.0	74.0	23.3	90	S	6.4	2.8	.....	.....	2s	.....	SW	0.180	4.57	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory	29.97	761.2	30.04	763 0	77.1	25.1	78	SW	10.2	4.6	.....	.....	3s	.....	.....	0	0	Fair	
Tokei (Yeddo) University	29.92	760.0	30.02	762.5	78 7	25.7	82	S	9	4.0	.....	1c	.....	.....	.....	0	0	Fair	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.04	0.9	.....	L. Castillo, A. E.
Guadalajara	25.08	637.1	30.04	762 9	69.4	15.2	89	NW	0.9	0.4	.....	0	10	.....	E	0.65	16.4	Covered	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	65.5	18.5	88	ENE	0.9	0.4	.....	2c	7n	N E	.....	Inap.	Inap.	Very cloudy	Prof. M. Leal.
Mexico	23.13	587.5	30.04	763 1	66.2	19.0	69	W	0.7	0.3	.....	0	10kn	.....	.....	2.48	62.9	Very cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Fabellon, (Aguascalts)	.....	.....	.....	.....	64.9	18.3	80	Calm	0	0	.....	0	9sn	.....	.....	0.13	3.3	Very cloudy	M. V. de Leon, M. E.
Puebla	23.37	593.6	29.98	761.5	58.8	14.9	88	NE	3.6	1.6	.....	5ck	5k	E	.....	0.60	15.2	Covered	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.92	759.9	29.93	760.2	78.8	26.0	94	NE	0.9	0.4	.....	10ck	0	NNE	.....	0	0	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.10	764.5	64 0	17.8	37	E	0.9	0.4	.....	0	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	29.97	761.2	30.00	761.9	80.6	27.0	84	NW	1.8	0.8	.....	3c	5sk	N	.....	0.14	3.6	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	58 1	14.5	90	NNE	1.8	0.8	.....	0	7	.....	E	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.32	592 5	30.07	763.8	57.7	14 3	71	E	4.5	2.0	.....	3	3	E	E	0.04	1 1	Cloudy	Prof. P. Spina, [M. M. D. D.
Morelia	23.13	613.0	.....	.....	66.2	19.0	59	NE	0.9	0.4	.....	10k	0	SE	.....	0.77	19.5	Covered	M. Tena, F. L. Paramo,
Durango	24.27	616.4	30.07	763.8	68.0	20.0	89	Calm	0	0	.....	2cs	0	N	.....	0	0	Clear	M. V. de Leon, C. E.
Colima	28.38	720.8	30.01	762.1	78.8	26.0	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rainy	R. Banda, C. E.
San Juan E. Mirhapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,881 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,742.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,591.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,284.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,013.4 ft.; Fabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,133 ft.; Colima, 532.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.8	30.03	762.8	78.8	26.0	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.08	763.9	30.13	765 3	74 1	23.4	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.11	764.7	30.11	764 7	70.2	21 2	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.04	763.1	30.04	763.1	78 4	25.8	61	ENE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.04	763.1	30.09	764.3	79.7	26.5	40	ESE	.....	.....	3	.....	2	.....	.....	0	0	Light cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer.
Bergen	30.05	763.3	30.11	764.7	62.6	17.0	66	WNW	7.6	3.4	.....	.....	1	.....	.....	0	0	.....	
Brônо	29.87	758.8	29.91	759.8	50.7	10.4	82	SSW	18	8	.....	.....	10	.....	.....	1.004	25.5	Raining	
Christiania	29.84	758.0	29.98	761.5	76.3	24.6	57	S	2	1	.....	.....	2	.....	.....	0	0	.....	
Tromsö	29.71	754.6	29.75	755.7	52.6	11.4	71	NE	4	2	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h..4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.08	764.1	30.27	768.9	74.1	23.4	90	SSW	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.7	29.98	761.4	83.3	28.5	29	W	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.09	764.2	30.17	766.4	75.0	23.9	59	SW	2.5	1.1	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.5	30.06	763.4	73.9	23.3	49	N	17.4	7.8	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.24	768.1	30.31	769.8	75.8	26.0	62	SW	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 8° 48′, E. 13° 08′	.....	.....	30.01	762.3	71.1	21.7	.....	WNW	.....	.....	1	.....	10	.....	WNW	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.14	765.5	73.4	23.0	.....	E	.....	.....	5	.....	0	.....	.....	3	E	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	29.94	760.5	82.4	28.0	.....	NE	.....	.....	3	.....	10	.....	.....	2	NE	Overcast	L. Ribeiro da Costa, Com'd't.
S& da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.01	762.2	71.1	21.7	.....	WNW	.....	.....	1	.....	10	.....	.....	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.26?	743.1?	29.66?	753.4?	70.2	21.2	57	NW	11	5	.....	.....	6k;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.57	751.0	29.97	761.3	65.8	18.8	51	NW	11	5	.....	.....	9	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.61	752.1	29.84	758 0	66.2	19.0	45	WNW	9	4	.....	.....	9k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.67	753.5	29.68	753.9	62.2	16.8	65	WNW	16	7	.....	.....	9n;ks	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.24	742.7	29.86	758.5	55.1	14.5	92	N	9	4	.....	.....	9ks;n;k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.91	759 6	29.98	761.4	74.1	23.4	41	WNW	22	10	.....	.....	5kn	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.95	760.7	29.97	761.2	74.3	23.5	56	W	11	5	.....	.....	3	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.92	737.1	29.55	750.6	60.3	15.7	80	NNE	27	12	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.42	747.2	29.62	752.3	66.9	19.4	68	WSW	31	14	.....	.....	6n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.39	746.4	29.41	746.9	73.4	23.0	53	NNE	4	2	.....	.....	6k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.42	721.8	29.75	755.6	84.4	29.1	34	NW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.63	757.6	29.74	755.5	82.8	28.2	40	NW	13	6	.....	.....	9k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.09	738.8	29.34	745.2	72.3	22.4	61	SW	4	2	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.51	724.1	29.41	746.9	69.4	20.8	71	SW	31	14	.....	.....	8ck;s	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.34	745.1	29.55	750.6	92.3	33.5	48	NW	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.09	713.5	29.63	752.7	97.5	36.4	33	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.02	737.1	29.51	749.6	72.3	22.4	70	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.14	740.1	29.41	747.1	70.9	21.6	87	SW	4	2	.....	.....	8	.....	.....	Blank	Blank	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzof.
Peking, (China)	29.61	752.2	29.76	755.8	86.2	30.1	54	SE	4	2	.....	.....	4cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, F. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.88	758 9	29.98	761.5	83.1	28.4	65	SE	1.6	0.72	.....	4	2	W	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.94	760.4	29.99	761.8	82.0	27.8	62	N	1.9	0.84	.....	3	5	SW	.....	Inap.	Inap.	Almost cov.	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.07	687.6	.....	.....	82.4	28.0	46	S	6.3	2.81	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.78	705.5	29.83	757.7	93.2	34.0	21	SW	13.4	6.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.84	757.8	29.95	760.5	91.0	32.8	58	SE	4.0	1.81	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.8	30.00	761.9	69.8	21.0	73	SW	7.4	3.33	.....	.....	9	.....	.....	0	0	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.96	761.1	30.03	762.8	83.9	28.8	78	E	2.2	1.0	.....	1cs	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.8	30.01	762.2	79.2	26.2	62	W	14.1	6.3	.....	0	4	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.86	758.5	29.95	760.8	84.6	29.2	84	E	5.7	2.56	.....	0s	2k	E	E	0.098	2.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.72	754.9	29.76	755.9	63.7	17.6	.....	N	.....	.....	4	.....	4	.....	.....	0	0	.....	
Umea	29.81	757.1	29.86	758.4	68.0	20.0	35	N	.....	.....	7	.....	7	.....	.....	0	0	.....	
Hernosand	29.85	758.1	29.90	759.4	68.9	20.5	33	W	.....	.....	7	.....	3	.....	.....	0	0	.....	
Stockholm	29.79	756 7	29.97	761.1	68.2	20.1	41	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Wisby	29.89	759.1	29.95	760.6	68.4	20.2	54	W	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.87	758.8	29.95	760.7	69.1	20.6	39	NNW	9.8	4.4	.....	.....	3	NW	NW	0.002	0.04	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	29 96	761.0	82.6	28.1	43	NE	.....	.....	1	.....	7	.....	.....	0.161	4.1	Cloudy	The Observatory.
Zurich	28.43	722.1	29.97	761.2	85.1	29.5	56	NW	.....	.....	.....	.....	2	.....	.....	0.020	0.5	Clear.	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.9 mm.; Thermometer, +5.4 cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.14	765.5	72.7	22.6	56	ENE	11	5.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.4	81.5	27.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.73	755.1	29.84	758.0	87.1	30.6	56	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....																			
.....																			

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.28	743.7	29.54	750.3	75	23.9	.....	SW	4	1.8	.....	.....	8s	.....	W	0.21	5.3	Cloudy	W. R. Bigg.
*Chatham, N B	29.75	755.6	29.81	757.2	59	15.0	97	S	3	1.3	.....	.....	10n	.....	S	0.25	6.3	Cloudy	G. A. Blair.
Charlottetown, P. E. Island.	29.86	758.4	29.90	759.4	59	15.0	87	SE	10	4.5	.....	.....	10n	.....	Calm	.....	.....	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.36	745.7	29.54	750.3	73.3	22.9	84	SW	.....	.....	4	9k	.....	.....	.....	Inap.	Inap.	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.58	751.3	29.73	755.1	58	14.4	100	E	.....	.....	4	.....	.....	.....	.....	.....	.....	Raining	H. A. Johnson.
Esquimault, B. C	29.94	760.5	29.98	761.5	55.2	12.9	93	S	.....	.....	.....	3cs	0	.....	.....	0	0	Fair	W. H. Revis.
*Father Point, Quebec	29.57	751.1	29.59	751.6	60	18.9	89	Calm	0	0	.....	5k	2n	SW	S	0.21	5.3	Clearing	J. McWilliams.
Fredericton, N. B	29.76	755.9	29.82	757.4	64.0	17.8	89	SW	8	3.6	.....	.....	10s	.....	.....	0.655	16.64	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.44	747.8	30.25	768.3	58	14.4	88	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.74	730.0	29.79	756.7	66	18.9	89	NW	.....	.....	2	.....	10n	.....	.....	0.10	2.5	Overcast	James Grant.
*Halifax, N. S	29.79	756.7	29.92	760.0	64	17.8	84	SE	7	3.1	.....	.....	8ks	.....	.....	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.42	747.3	29.77	756.1	70.6	21.4	69	NW	.....	.....	4	0	0	.....	.....	0.03	0.8	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.75	755.6	29.78	756.4	52	11.1	69	NW	.....	.....	5	8k	8ks	.....	NNW	0	0	Cloudy	E. Weedon.
*Kingston, Ontario	29.22	742.2	29.54	750.3	74	23.3	93	SW	10	4.5	.....	8k	2s	SW	SW	0.30	7.6	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.90	759.4	29.94	760.5	60.0	15 0	.....	SW	8	3.6	.....	5ck	0	SW	.....	0.15	3.8	Fair	C. H. Rigby.
*Montreal, Quebec	29.36	745.7	29.55	750.6	71	21.7	83	W	12	5.4	.....	.....	8s	.....	.....	0.58	14.7	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.05	737.9	29.71	754.6	70	21.1	87	NW	14	6 3	.....	2ck	0	NW	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.94	760.1	29.66	753.4	71.7	22.1	49	NW	.....	.....	4	0	0	.....	.....	0.08	2.0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.10	739.1	29.76	755.9	69	20.6	75	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.16	740.7	29.78	756.4	70	21.1	70	W	10	4.5	.....	2k	0	NW	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.30	744.2	29.61	752.1	59	15.0	94	NE	.....	.....	1	.....	10n	.....	NE	0.55	14.0	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.19	741.4	29.68	752.6	68	20.0	87	NW	7	3.1	.....	.....	8s	.....	NW	0.74	18.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.78	756.4	29.83	757.7	59	15.0	92	SW	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.69	754.1	29.85	758.2	60	15.6	82	S	9	4.0	.....	.....	10ks	.....	.....	2.18	55.4	Threatening	G. Murdock, C. E.
*Saugeen, Ontario	29.08	738.6	29.76	755 9	69	20.6	91	NW	20	8.9	.....	5k	5ks	N	N	0.19	4.8	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.54	724.9	29.77	756.1	64.6	18.1	81	NW	19	8.5	.....	2k	4ks;s	NW	.....	0.115	2.92	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.94	760.5	29.97	761.2	64	17.8	49	W	4	1.8	.....	2ck	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.36	745.7	29.72	754.9	70	21.1	65	NW	16	7.2	.....	2k	0	NW	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	58.0	14.4	64	NW	.....	.....	.....	1c	2s	.....	.....	Inap.	Inap.	Fair	John Delany.
.....																			

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.42	747.3	29.64	752.8	71	21.7	80	S	7	3.1	.....	.....	10k	.....	SW	0.07	1.8	Cloudy	
Alpena, Michigan	29.26	743.2	29.87	758.7	68	20.0	69	NW	16	7.2	.....	3k	0	NW	.....	0	0	Fair	
Atlantic City, New Jersey	29.73	755.1	29.75	755.6	75	23.9	95	SW	7	3.1	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Augusta, Georgia	29.72	754.9	29.89	759.2	88	31.1	59	NW	6	2.7	.....	2c	Haze	Calm	.....	0	0	Clear	
Baltimore, Maryland	29.68	753.9	29.73	755.1	80	26.7	87	SW	4	1.8	.....	2c	Haze	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.71	754.6	29.74	755.4	77	25.0	91	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Bismarck, Dakota	28.41	721.6	30.26	768.6	61	16.1	71	E	15	6.7	.....	.....	10s	.....	SE	0	0	Cloudy	
BoiseCity, Idaho	27.08	687.8	29.96	761.0	63	17.2	51	SW	4	1.8	.....	5c	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.59	751.6	29.74	755.4	67	19.4	89	S	5	2.2	.....	.....	10cs	0	Calm	0	0	Cloudy	
Brackettville, Texas	28.94	735.1	29.91	759.7	78	25.6	82	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Breckenridge, Minnesota	29.20	741.7	30.18	766.6	59	15.0	94	NE	5	2.2	.....	1k	0	Calm	.....	0	0	Clear	
Brownsville, Texas	29.95	760.7	30.02	762.5	78	25.6	90	E	4	1.8	.....	2c	5ks	Calm	SE	0.27	6.9	Fair	
Buffalo, New York	29.02	737.1	29.67	753.6	73	22.8	67	W	8	3.6	.....	2ck	2s	NW	NW	0.91	23.1	Fair	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	59	S	.....	.....	1	2cs	2s	Calm	S	0	0	Fair	
Burlington, Vermont	29.35	745.5	29.59	751.6	70	21.1	90	S	12	5.4	.....	.....	10s	.....	S	1.20	30.5	Cloudy	
Cairo, Illinois	29.61	752.1	29.98	761.5	84	28.9	75	N	12	5.4	.....	Haze	0	.....	.....	6	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	61	16.1	82	Calm	.....	.....	0	0	8s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	68	20.0	70	E	.....	.....	1	5ck	2s	E	Calm	0.50	12.7	Cloudy	
Camp Verde, Arizona	26.76	679.7	30.25	768.3	75	23.9	56	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Fair	
Campo, California	27.40	696 0	29.97	761.2	56	13.3	87	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.88	758.9	29.88	758.9	81	27.2	87	SW	19	8.5	.....	2k	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	29.83	757 7	29.85	758.2	78	25.6	86	S	14	6.3	.....	0	0	.....	.....	0.08	2.0	Clear	
Cape Lookout, N. Carolina	29.88	758.9	29.89	759.2	82	27.8	87	SW	22	9.8	.....	.....	10ks	.....	SW	0.12	3.0	Cloudy	
Cape May, New Jersey	29.73	755.1	29.76	755.9	77	25.0	85	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.27	743.4	29.94	760.5	80	26.7	82	Calm	0	0	.....	0	8ks	.....	SE	0	0	Cloudy	
Charleston, South Carolina	29.91	759.7	29.97	761.2	82	27.8	79	SW	5	2.2	.....	0	0	.....	.....	0.01	0.3	Clear	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	64	17.8	89	SE	12	5.4	.....	2ck	8s	Calm	SE	0.11	2.8	Cloudy	
Chicago, Illinois	29.29	744 0	29.95	760.7	72	22.2	62	NE	8	3.6	.....	2k	0	NE	.....	0	0	Clear	
Cincinnati, Ohio	29.22	742.2	29.82	757.4	81	27.2	74	NW	7	3.1	.....	1c	0	W	.....	Inap.	Inap.	Clear	
Cleveland, Ohio	29.11	739.4	29.79	756.7	75	23.9	68	NW	13	5.8	.....	2ck	5ks	NW	NW	0	0	Fair	
Columbus, Ohio	29.00	736.6	29.75	755.6	79	26.1	61	NW	.....	.....	2	2c	0	Calm	.....	0	0	Fair	
Corpus Christi, Texas	28.16	715.3	29.78	756.4	70	21.1	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.58	751.3	30.03	762.7	78	25.6	86	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.43	747.5	30.05	763.3	71	21.7	71	N	11	4.9	.....	1c	0	N	.....	0.29	7.4	Clear	
Denison, Texas	29.27	743.4	30.02	762.5	82	27.8	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.94	633.5	30.16	766.1	65	18.3	78	NW	8	3.6	.....	c	2s	.....	Calm	0.05	1.3	Clear	
Detroit, Michigan	29.17	740.9	29.81	757.2	71	21.7	62	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.53	699.2	29.71	754.6	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.05	763.3	69	20.6	65	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Duluth, Minnesota	29.47	748.5	30.13	765.3	64	17.8	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.30	744.2	30.01	762.2	77	25.0	86	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Eastport, Maine	29.74	755.4	29.80	756.9	57	13.9	87	S	10	4.5	.....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	61	W	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear	
Erie, Pennsylvania	29.06	738.1	29.73	755.1	74	23.3	68	NW	3	1.3	.....	5k	2s	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.34	745.2	29.97	761.2	64	17.8	73	NW	16	7.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Florence, Arizona	.....	.....	.....	.....	76	24.4	82	Calm	.....	.....	0	5ck	0	SE	.....	Inap	Inap.	Fair	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.29	642.4	30.25	768.3	68	20.0	73	NW	1	0.4	.....	2c	0	W	.....	Inap.	Inap.	Fair	
Fort Gibson, Indian Ter	29.50	749 3	30.01	762.2	82	27 8	83	W	1	0.4	.....	2c	Haze	Calm	Calm	0	0	Clear	
Fort Griffin, Texas	28.79	731.3	30.02	762 5	74	23.3	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.92	760.0	75	23.9	86	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	30.00	762.0	30.04	763.0	84	28.9	79	W	7	3.1	.....	5c	0	Calm	.....	0	0	Fair	
Grand Haven, Michigan	29.30	744.2	29.91	759.7	73	22.8	63	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.14	740.1	29.88	758.4	81	27.2	70	NW	8	3.6	.....	2c	0	N	.....	Inap.	Inap.	Clear	
Indianola, Texas	30.02	762 5	30.05	763 3	84	28.9	79	S	5	2.2	.....	2k	1n	SE	Calm	0	0	Fair	
Jacksboro, Texas	28.93	734.8	30.01	762.2	79	26.1	70	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.96	761.0	29.99	761.7	83	28.3	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.39	746.5	29.97	761.2	78	25.6	65	N	10	4.5	.....	1c	4s	N	N	0	0	Fair	
Key West, Florida	29.90	759.4	30.02	762.5	83	28.3	71	SE	5	2.2	.....	0	6s;ks	.....	SE	0.21	5.3	Fair	
Kittyhawk, North Carolina	29.81	757.2	29.84	757.9	80	26.7	91	W	18	8.0	.....	2k	0	W	.....	0.90	22.9	Fair	
Knoxville, Tennessee	28.96	735.6	29.91	759.4	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.35	745.5	30.07	763.8	64	17.8	73	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	74	23.3	68	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.60	751.8	29.93	760.2	78	25.6	91	Calm	0	0	.....	5ck	0	Calm	.....	0.08	2.0	Fair	
Lead City, Dakota	24.95	634.5	.....	.....	65	18.3	73	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.19	741.4	29.99	761.7	78	25.6	89	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Los Angeles, California	29.58	751.3	29.91	759.7	62	16.7	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.32	744.7	29.84	757.9	81	27.2	78	NW	4	1.8	.....	2k	Haze	NW	Calm	Inap.	Inap.	Clear	
Lynchburg, Virginia	29.13	739.9	29.76	755.9	83	28 3	70	W	4	1.8	.....	2cs	0	Calm	.....	0.06	1.5	Clear	
Marquette, Michigan	29.31	744.5	29.93	761.7	63	17.2	78	NW	16	7.2	.....	.....	10ks	.....	NW	0	0	Cloudy	
Mason, Texas	28.39	721.1	30.07	763.8	77	25.0	86	Calm	0	0	.....	8c;cs	0	Calm	.....	0.02	0.5	Fair	
Memphis, Tennessee	29.67	753.6	29.97	761.2	86	30.0	75	NW	4	1.8	.....	5c	0	SW	.....	0	0	Fair	
Milwaukee, Wisconsin	29.27	743.4	29.97	761.2	69	20.6	80	N	12	5.4	.....	1c	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.96	761.0	30.00	762.0	81	27.2	78	NW	3	1.3	.....	8ck	2s	N	Calm	1.15	29.2	Cloudy	
Montgomery, Alabama	29.84	757.9	30.06	763.5	81	27.2	82	Calm	0	0	.....	5ck	0	Calm	.....	0.38	9.7	Fair	
Morgantown, West Virginia	28.77	730.7	29.75	755.6	79	26.1	78	SW	6	2.7	.....	0	8s	.....	SW	0	0	Fair	
Mt. Washington, N. H.	23.77	603.8	30.09	764.3	50	10.0	100	SW	30	13.4	.....	.....	10n	.....	SW	0.32	8.1	Light rain	
Nashville, Tennessee	29.43	747.5	29.93	760.2	84	28.9	71	W	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
New Haven, Connecticut	29.63	752.6	29.74	755.4	73	22.8	90	Calm	0	0	.....	.....	10n;fg	.....	.....	Inap	Inap.	Light rain	
New London, Connecticut	29.72	754.9	29.76	755.9	65	18.3	100	E	6	2.7	.....	.....	10s;fg	.....	Calm;N	0	0	Cloudy	
New Orleans, Louisiana	29.92	760.0	29.97	761.2	84	28.9	76	W	6	2.7	.....	1k	Haze	Calm	Calm	0	0	Fair	
Newport, Rhode Island	29.72	754.9	29.77	756.1	68	20.0	95	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
New York, New York	29.68	753.3	29.75	755.6	73	22.8	95	SW	4	1.8	.....	.....	10s;fg	.....	Calm	0	0	Foggy	
Norfolk, Virginia	29.77	756.1	29.83	757.7	84	28.9	83	SW	13	5.8	.....	10k	0	SW	.....	0.75	19.1	Cloudy	
North Platte, Nebraska	25.24	641.0	29.70	754.4	73	22.8	88	Calm	0	0	.....	.....	10n	.....	Calm	0 08	2.0	Light rain	
Olympia, Washington Ter.	30.01	762.2	30.05	763.3	45	7.2	92	S	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Omaha, Nebraska	29.00	736.6	30.03	762.7	73	22.8	72	N	6	2 7	.....	2c	2s	Calm	Calm	0.01	0.3	Fair	
Oswego, New York	29.35	745.5	29.84	752.8	75	23.9	80	SW	3	1.3	.....	2k	0	W	.....	0.47	11.9	Fair	
Pembina, Dakota	29.44	747.8	30.26	768.6	54	12.2	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.67	753.6	29.72	754.9	77	25.0	95	SW	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Phœnix, Arizona	28.74	730.0	30.44	773.2	92	33.3	75	Calm	.....	.....	0	8c	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.14	460 7	30.35	770 9	40	4.4	56	SW	11	4.9	.....	0	0	.....	.....	0.25	0.3	Clear	
Pioche, Nevada	24.14	613.1	29.92	760.0	70	21.1	23	S	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Pittsburg, Pennsylvania	28.96	735.6	29.71	754.6	79	26.1	82	NW	1	0.4	.....	5k	0	NW	.....	0	0	Fair	
Port Huron, Michigan	29.16	740.7	29.79	756.7	70	21.1	61	N	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Maine	29.67	753 6	29.72	754.9	66	18.9	89	S	10	4.5	.....	.....	Fog	.....	.....	Inap	Inap.	Foggy	
Portland, Oregon	30.09	762.0	30.10	764.5	54	12.2	87	Calm	0	0	.....	0	2s	.....	NW	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.80	629.9	30.16	766.1	65	18.3	49	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.03	762.7	30.05	763.3	82	27.8	79	SE	9	4.0	.....	0	0	.....	.....	1.77	45.0	Clear	
Red Bluff, California	29.51	749.5	29.86	758.4	70	21.1	36	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.07	738.4	29.64	752.8	75	23.9	81	W	11	4.9	.....	2ck	0	W	.....	0.44	11.2	Fair	
Roseburg, Oregon	29.50	749.3	30.06	763.5	58	14.4	84	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.74	755.4	29.82	757.4	64	17.8	68	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.43	747.5	29.97	761.2	81	27.2	74	NW	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
St. Marks, Florida	29.97	761.2	29.99	761.7	76	24.4	91	Calm	0	0	.....	8ck	2s	Calm	Calm	0.10	2.5	Cloudy	
St. Paul, Minnesota	29.28	743.7	30.09	764.3	64	17.8	73	N	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	71	21.7	45	S	2	0.9	.....	2c	0	Calm	.....	Inap.	Inap.	Clear	
San Antonio, Texas	29.36	745.7	29.92	760.0	79	26.1	87	SE	1	0.4	.....	5ck	0	.....	.....	0	0	Fair	
San Diego, California	29.88	758.9	29.95	760.7	63	17.2	89	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.20	741.7	29.84	757.9	73	22.8	76	N	16	7.2	.....	.....	10ks	.....	N	0	0	Cloudy	
Sandy Hook, New Jersey	29.71	754.6	29.74	755.4	76	24.4	73	SW	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
San Francisco, California	29.82	757.4	29.88	758.9	55	12.8	87	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	58	14.4	64	E	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear	
Savannah, Georgia	29.87	758.7	29.96	761.0	83	28.3	79	SW	12	5.4	.....	2c	Haze	Calm	.....	0.97	24.6	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	86	30.0	80	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.30	619.5	30.35	770.9	66	18.9	73	S	2	0.9	.....	8k	0	Calm	.....	Inap.	Inap	Fair	
Smithville, North Carolina	29.90	759.4	29.94	760.5	82	27.8	83	SW	16	7.2	.....	0	5ks	.....	SW	0.07	1.8	Fair	
Springfield, Massachusetts	29.52	749.8	29.64	752.8	72	22.2	85	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Stockton, Texas	27.01	686.0	30.01	762.2	70	21.1	32	SE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.69	754.1	29.74	755.4	65	18.3	100	SW	8	3.6	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Toledo, Ohio,	29.18	741.2	29.81	757.2	74	23.3	63	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.39	695.7	29.96	761.0	74	23.3	81	NW	.....	.....	1	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Tybee Island, Georgia	29.93	760.2	29.95	761.0	79	26.1	87	SW	7	3.1	.....	0	0	.....	.....	1.20	30.5	Clear	
Umatilla, Oregon	29.62	752.3	.....	.....	65	18.3	54	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.76	755.9	30.01	762.2	84	28.9	79	Calm	0	0	.....	Haze	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.34	618.2	29.82	757.4	60	15.6	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.51	749.5	29.87	758.7	64	17.8	78	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.66	753.4	29.76	755.9	83	28.3	79	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	60	Calm	.....	.....	0	5cs	0	S	.....	0	0	Fair	
Wilmington, N. Carolina	29.82	757.4	29.89	759.2	81	27.2	82	SW	10	4.5	.....	0	0	.....	.....	0.11	2.8	Clear	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	63	17.2	24	SW	8	3.6	.....	2k	0	S	.....	0	0	Fair	
Wood's Holl, Mass.	29.73	755.1	29.78	756.4	67	19.4	94	S	2	0.9	.....	.....	10s;fg	.....	Calm	0	0	Foggy	
Yankton, Dakota	28.91	734.3	30.17	766.3	66	18.9	73	NE	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.68	753.9	29.84	757.9	81	27.2	58	SW	2	0.9	.....	2cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	30.08	764.0	30.13	765.3	65.5	18.6	74	NE	11	4.9	.....	2c	0	E	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.99	761.7	30.01	762.2	84	28.9	79	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.11	764.8	30.12	765.0	84	28.9	83	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I.	29.87	758.7	29.95	760.7	84	28.9	.....	E	5	2.2	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	29.98	761.5	29.98	761.5	79	26.1	91	E	2	0.9	.....	5k	4s	E	.....	0.120	3.05	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A.	25.21	640.3	.....	.....	68.0	20.0	89	E	8	3.6	.....	5cs	2ks	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.9 (?) ft., or 1,761.4 (?) m.; Prescott, 5,560 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,562.2 (?) ft., or 2,001.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.86	758.4	57	13.9	54.5	12.5	97	SW	19	8.5	....	.....	10	.....	SW	.....	.....	.....	.....	Dense fog....	
Navy Yard, Pensacola, Fla.	30.15	765.8	81	27.2	81	27.2	87	SE	25	11.2	....	.....	.....	.....	SE	0.04	1.0	.....	.....	.....	
Navy Yard, Portsmouth, N. H	29.85	758.2	74	23.3	67	19.4	84	NE	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Naval Hospital, Yokohama, Japan	30.05*	763.3*	78	25.6	77.9	25.5	82	SW	.....	.....	5	.....	2k	.....	Calm	0	0	.....	.....	Lightning...	
Adams, Apia, Samoan Islands	30.03	762.7	78	25.6	77	25.0	95	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	29.96‡	761.0‡	.....	.....	72	22.2	95	Calm	.....	.....	0	.....	6	.....	Calm	.....	.....	.....	.....	Misty.....	
Ashuelot, Nagasaki, Japan	30.07	763.8	77	25.0	76	24.4	95	S	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Raining.....	
Alaska, S. 11° 17′, W. 35° 45′	30.20	767.1	78	25.6	78	25.6	73	ESE	.....	.....	4	.....	4	.....	SE	0.02	0.5	Very light	SE	D. clouds.....	
Canonicus, New Orleans, La	30.06	763.5	57	13.9	82	27.8	87	W	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	29.75‡	755.6‡	.....	.....	75	23.9	95	SW	4	1.8	.....	.....	10	.....	SW	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.91‡	759.7‡	.....	.....	73	22.8	85	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Overcast.....	
Despatch, Prince' Islands, Sea of Marmora	30.18‡	766.6‡	.....	.....	74	23.3	59	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Fair.....	
Franklin, Norfolk, Va.	29.98	761.5	81	27.2	80	26.7	91	W	6	2.7	.....	.....	2?	.....	W	0.2	0.5	.....	.....	Cloudy.....	
Gettysburg N. 36° 48′, E. 17° 52′	29.99‡	761.7‡	.....	.....	81	27.2	87	N	.....	.....	1	.....	0	.....	.....	0	0	None	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	29.87	758.7	.....	.....	74	23.3	72	N	9.6	4.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.	
Marion, Villefranche, France	30.10	764.5	82	27.8	82	27.8	71	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Buffalo, N. Y.	29.37	746.0	76	24.4	74	23.3	63	NW	.....	.....	3	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Monocacy, Yokohama, Japan	30.05‡	763.3‡	.....	.....	79	26.1	86	SSW	.....	.....	2-3	.....	5	.....	SW	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.	30.17†	766.3†	.....	.....	79	26.1	91	S	15	6.7	.....	.....	2	.....	S	0.47	11.9	.....	.....	Clear.....	
Onward, Callao, Peru	30.09†	764.3†	.....	.....	60	15.6	82	NNW	.....	.....	3	.....	8	.....	.....	.....	.....	Long	W	Misty....	
Palos, Tientsin, China	29.90	759.4	86	30.0	83	28.3	89	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Pensacola, Mare Island, California	29.96	761.0	62	16.7	57	13.9	94	SSW	14	6.3	.....	.....	10	.....	SSW	.....	.....	.....	.....	Overcast.. ...	
Plymouth. New York, N. Y.	29.73‡	755.1‡	.....	.....	75	23.9	90	NW	.....	.....	0-1	.....	Fog	.....	.....	.....	.....	.....	.....	Foggy	
Ranger. Hong-Kong, China	30.00*	762.0*	.....	.....	84	28.9	96	ESE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.98	761.5	78	25.6	78	25.6	95	ESE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	29.77‡	756.1‡	.....	.....	83	28.3	75	SW	.....	.....	2	.....	2	.....	W	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	29.76	755.9	78	25.6	77	25.0	95	SW	10	4.5	.....	.....	10	.....	SSW	0	0	.....	.....	Cloudy	
Supply, Havre, France	30.04	763.0	75	23.9	73	22.8	85	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.	29.79‡	756.7‡	.....	.....	70	21.1	100	SSE	.....	.....	3	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Trenton, Gibraltar	29.96‡	761.0‡	.....	.....	78	25.6	95	W	.....	.....	0-1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico	29.72	754.9	79	26.1	78	25.6	86	E	.....	.....	0-1	.....	10	.....	Calm	0.08	2.0	.....	.....	Cloudy.....	
Vandalia, Beirut, Syria	29.81‡	757.2‡	.....	.....	84	28.9	75	N	.....	.....	2	.....	0	.....	.....	.....	.....	Long	W	Clear	
Wabash, Boston, Mass	29.72‡	754.9‡	.....	.....	68	20.0	90	SE	10	4.5	.....	.....	10	.....	S;E	0	0	.....	.....	Cloudy	
Wyoming, N. 46° 03′, W. 46° 15′	29.33	745.0	82	27.8	52	11.1	79	WNW	.....	.....	7	.....	9	.....	NW	.....	.....	Rough	W	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 23° 39', E. 118° 06'		29.97*	761.2*	80	26.7	100	SE			2		7		SE	7 hours	Light	SE	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 39° 10', W. 124° 00'		29.95*	760.7*				NW			3		4		NW		Mod'ate	NW	Hazy	Capt. Seabury.
S. S. City of Peking, N. 37° 38', W. 124° 54'		30.00†	762.0†	57	13.9	94	NNW	38	17.0			8		NNW	0	Rough	NW	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 23° 1', W. 106° 22'		29.96†	761.0†	84	28.9	88	NNE			2		5		N	0	Very small	WSW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 24° 4', W. 152° 22'		30.44‡	773 2‡	76	24.4	100	E			6		5		SE	0	Mod'ate	ENE	D. clouds	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

S. S. Alaska																			
S. S. China, N. 23° 39', E. 118° 06'		29.97*	761.2*	80	26.7	100	SE			2		7		SE	7 hours	Light	SE	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 39° 10', W. 124° 00'		29.95*	760.7*				NW			3		4		NW		Mod'ate	NW	Hazy	Capt. Seabury.
S. S. City of Peking, N. 37° 38', W. 124° 54'		30.00†	762.0†	57	13.9	94	NNW	38	17.0			8		NNW	0	Rough	NW	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 23° 1', W. 106° 22'		29.96†	761.0†	84	28.9	88	NNE			2		5		N	0	Very small	WSW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 24° 4', W. 152° 22'		30.44‡	773 2‡	76	24.4	100	E			6		5		SE	0	Mod'ate	ENE	D. clouds	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 50° 39', W. 22° 58'		30.17*	766.3*	64	17.8	83	W			4		10				Small	SW	Gloomy	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 40° 47', W. 67° 02'		29.85†	758.2†	68	20.0	90	SSE			2		Fog			0	Light	S	Foggy	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 45° 25' W. 171° 10'		29.74*	755.4*	62	11.1	93	W			4		S		W	0	Following	W	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Delaware River		29.98*	761.5*	78	25.6	95	WSW					3		NW	Light			Partly cl'dy	Captain Sargent.
S. S. Ohio, N. 51° 10′ W. 15° 33′		30.13	765.3	70	21.1	80	ENE			1		7?		ENE	0	None		Clear?	Captain Morrison.
S. S. Pennsylvania, N. 48° 58′, W. 33° 56′		29.66†	753.4†	63	17.2	100	SSW			4		10		SW	0.50 in. or 12.7 mm.	Mod'ate	SW	Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 46° 40′, W. 37° 09′		29.70*	754.4*				WSW	30	13.4			8		W		Heavy	WSW	Clouds	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, (N. 65° 54′, W. 62°)?		30.00*	762.0*	36.0	2.2		NNE					10s			0			Foggy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 22, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.09	764.2	69.6	20.9	84	NE	.....	.....	4	.....	1	.....	.....	0	0	Very fair.....	Dr. Ollive.
Nemours	.....	.....	30.02	762.6	84.2	29.0	59	NNW	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Michel.
Algiers	.....	.....	29.92	760.0	81.9	29.4	65	W	.....	.....	4	.....	0	.....	.....	Inap.	Inap.	Clear.....	Tourillere.
La Calle	.....	.....	29.98	761.6	89.2	31.8	55	N	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Foufrede.
Tunis	.....	.....	30.07	763.7	100.0	37.8	.....	SE	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	Jacques.
Sfax	.....	.....	30.18	766.5	87.8	31.0	.....	SSE	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30 07	763.8	91.9	33.3	33	N	.....	.....	1	.....	0	.....	.....	0	0	Cloudy.....	Herbin.
Tebessa	.....	.....	30.08	764.0	96.8	36.0	11	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	30.12	765.1	90.5	32.5	.....	S	.....	.....	6	.....	5	.....	.....	0	0	Cloudy.....	Brugniaux.
Laghount	.....	.....	30.14	765.6	100.8	38.2	24	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Bertrand.
Biskra	.....	.....	30.12	765.0	100.0	37.8	.....	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.52	749.8	30.04	763.0	84.2	29.0	53	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Ivan Stoan.
Cracow	29.32	744.8	30.04	762.9	82.9	28.3	50	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski.
Eperies	29.22	742.1	30.05	763.2	82.0	27.8	48	SE	.....	.....	2	.....	2cs	.....	.....	0	0	.....	Julius Mikonk.
Gratz	28.86	733.0	30.07	763.6	74.8	23.8	78	SW	.....	.....	2	.....	4	.....	.....	0.488	12.40	.....	Andreas Rospini.
Hermannstadt	28.72	729.5	30.08	763.9	79.0	26.1	38	ENE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.66	727.9	29.93	760.3	76.6	24.8	62	ESE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	29.10	739.2	30.05	763.3	73.6	23.1	59	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.96	760.9	30.07	763.6	84.9	29.4	52	WNW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.70	754.3	30.13	765.4	85.5	29.7	33	S	.....	.....	4	.....	1	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.98	761.6	30.09	764.2	84.9	29.4	53	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	P. Busin.
Vienna	29.38	746.3	30.07	763.6	81.3	27.4	49	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.3 m., or 1,337.9 ft.; Krems-münster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.59	726.3	30.03	762.8	77.2	25.1	50	SE	.....	.....	0	.....	9	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.80	756.9	29.99	761.7	81.9	27.7	45	NW	.....	.....	3	8	1	SE	ESE	0	0	.....	Royal Observatory
Furnes	30.02	762.6	30.05	763.2	74.7	23.7	73	NW	.....	.....	3	.....	8	.....	.....	0.331	8.4	.....	M. E. de Cae.
Maeseyck	29.91	759.8	30.04	763.0	80.8	27.1	68	E	.....	.....	1	.....	9	.....	.....	0.496	12.6	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

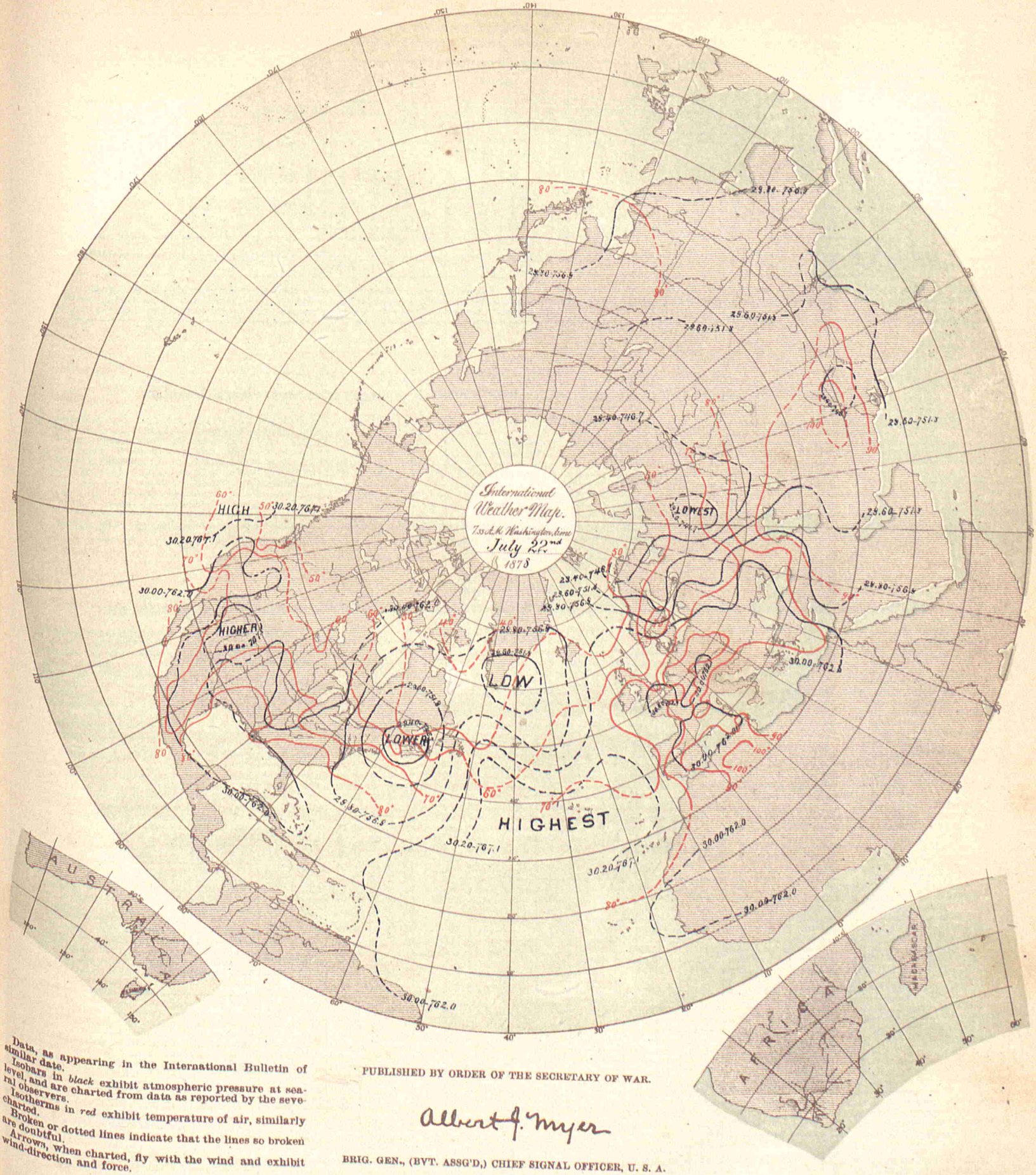
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.09	764.3	30.18	766.6	60.4	15.8	.....	SSE	16	7.2	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	30.11	764.8	30.12	765.0	69	20.6	.....	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Hazy.....	George Carrick.
Armagh, Observatory	.....	.....	30.15	765.8	71.0	21.7	.....	NE	4	1.8	.....	.....	0	.....	.....	.....	.....	Blue sky.....	S. Cull.
Bidston, (Liverpool Obs.)	.....	.....	30.06	763.5	81.2	27.3	.....	E	7	3.1	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.09	764.3	77.8	25.4	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.73	755.1	30.12	765.0	74.6	23.7	.....	SE	.....	.....	3	.....	3	.....	.....	0	0	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.98	761.5	81	27.2	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.06	763.5	70.0	21.1	.....	E	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.05	763.3	76.0	24.4	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E	29.85	758.2	29.97	761.2	74.2	23.4	.....	SE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds....	Lt. W. G. Morris, R. E.
Dartmoor	28.60	726.4	30.00	762.0	75.0	23.9	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.11	764.8	30.14	765.5	65	18.3	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	J. Mac Gowan.
Dover	29.98	761.5	30.01	762.2	69	20.6	.....	ESE	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	30.06	763.5	83.6	28.1	.....	SE	2.2	1.0	.....	.....	5	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.78	756.4	30.00	762.0	76.3	24.6	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast....	The Staff.
Fort Napier, (Natal)	27.66	702.6	29.96	761.0	78.1	25.6	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.80	756.9	30.03	762.7	83	28.3	.....	W	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.06	763.5	78	25.6	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.95	760.7	30.00	762.0	86.4	30.2	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.94	760.5	30.15	765.8	64.4	18.0	.....	NNE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	30.08	764.0	30.09	764.3	63	17.2	.....	ENE	.....	.....	4	.....	4	.....	.....	.....	.....	Foggy	G. T. Watson.
Greenwich, Royal Obs'y	29.83	757.7	29.99	761.7	74.1	23.4	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Thunder.....	The Staff, for G. B. Airy.
Guernsey	29.75	755.6	29.97	761.2	68.5	20.3	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.10	764.5	77	25.0	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	30.03	762.7	30.08	764.0	69	20.6	.....	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.73	755.1	30.02	762.5	63.6	17.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	J. Fisher.
Kew, Observatory	.....	.....	29.99	761.7	73.8	23.2	.....	E	21	9.4	.....	.....	10	.....	.....	.....	.....	Hazy.....	The Staff.
Kingstown	30.09	764.3	30.12	765.0	63	17.2	.....	N	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	George Mitchell.
Leicester, Museum	.....	.....	30.04	763.0	76.0	24.4	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.01	762.2	30.09	764.3	84	28.9	.....	NE	.....	.....	1	.....	1k	.....	.....	.....	.....	D. clouds....	Sgt. Hewitt, A. H. C.
Nairn	30.07	763.8	30.16	766.1	62	16.7	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Hazy.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.04	763.0	84.5	29.2	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.90	759.4	30.09	764.3	78.6	25.9	.....	NE	.....	.....	6	.....	10k	.....	.....	ENE	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.53	750.0	30.03	762.7	79.0	26.1	.....	ENE	.....	.....	6	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.01	762.2	78	25.6	.....	ENE	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	H.E. Bellamy.
Plymouth	29.92	760.0	29.99	761.7	71.5	21.9	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	30.02	762.5	30.07	763.8	76	24.4	.....	SE	.....	.....	2	.....	2	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	29.86	758.4	30.02	762.5	76	24.4	.....	N	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.20	767.1	58.2	14.6	.....	WSW	6	2.7	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL.D.
Scutari, Cemetery, (Turkey)	.....	.....	30.09	764.3	82.0	27.8	.....	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.85	758.2	30.12	765.0	76.6	24.8	.....	ENE	.....	.....	2	.....	2	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	30.07	763.8	30.10	764.5	80.5	26.9	56	E	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.71	754.6	30.12	765.0	78.3	25.7	.....	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	30.10	764.5	30.13	765.3	61	16.1	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.78	756.4	29.99	761.7	70.9	21.6	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Thunder.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.17	766.3	61	16.1	.....	N	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	John Trotter.
Truro, Royal Institution	.....	.....	30.04	763.0	79	26.1	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.07	763.8	74.9	23.8	.....	NNW	10	4.5	.....	.....	1	.....	.....	.....	.....	Hazy.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.71	754.6	45.0	7.2	79	NW	.....	.....	2	.....	7k	.....	.....	0.1	3.	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.90	759.4	30.02	764.4	73.0	22.8	67	SE	16.0	7.2	.....	0	2	.....	SE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.85	758.2	29.94	760.5	53.6	12.0	70	N	12	5.4	.....	.....	0	.....	.....	0	0	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 41° 30', W. 64° 40'	10*	S	Overcast.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Moulland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 52° 55' W. 49° 0'	6	N	D. clouds....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile.
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Serata	.....	.....	.....	.....
Schooner Traveller, N. 51° 5', W. 50° 0'	5	N	Foggy.....	Capt. Alex. Simpson.
Barque Virginia, N. 49° 55', W. 17° 5'	2	S	D. clouds....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			
San José	26.22	666.0			68.0	20.0	92	NE			1	1c	4ck			1.3	33.		Mr. Ansart. Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.99	761.8	30.04	763.0	66.9	19.4	74	NW			2		9						
Fanöe	30.08	763.9	30.10	764.4	62.1	16.7	88	W			4		9						
Godthaab, (Greenland)	28.56	750.7	29.60	751.8	43.5	6.4		NW			2		10						
Stykkisholm, (Iceland)	29.72	754.9	29.76	756.0	52.9	11.6	76	SE			3		8					Raining	
Thorshavn, (Faröe)	30.15	765.7	30.18	766.6	49.8	9.9	82	E			2		10						
Vestervig	29.87	758.6	30.04	762.9	63.7	17.6	72	WNW			4		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.52	749.8	30.07	763.8	75.2	24	61	SW			1		5		S	0.185	4.7	Cloudy	Collignon, Director.
Amiens, Normal School	29.89	759.2	29.99	761.8	84.2	29.0	58	NE			2		2		NE	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.92	760.0	30.00	762.0	91.6	33.1	26	S			2		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.47	748.6	30.02	762.4	74.3	23.5	74	SE			1		10m			0.508	12.9	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.74	755.4	30.01	762.3	70.2	26.2	49	SW			3		5		SW	0.010	0.25	Cloudy	Normal School.
Besançon	29.16	749.6	30.00	761.9	84.2	29	52	E			2		2		S	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.25	743.0	30.10	763.7	86.2	30.1	59	S			6		5ck		S	0	0	Cloudy	Normal School.
Bourges, Normal School	29.41	747.1	30.02	762.4	77.7	25.4	60	N			2		lc		N	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.72	754.9	29.97	761.1	77.7	25.4	77	WSW			1		10		WSW	0	0	Stormy	The Staff.
Carcassonne, Normal School	29.58	751.3	29.97	761.3	81.3	27.4	54	E			2		5		SE	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.41	747.0	29.95	760.6	78.1	25.6	84	WSW			2		4		E	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.72	754.8	30.02	762.6	77.9	25.5	65	Calm			0		8ck			0.224	5.7	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.04	727.5	29.92	760.0	83.1	28.4	47	N			2		5		SW	0.059	1.5	Cloudy	Alluard, Director.
Commercy, Normal School	29.21	741.8	30.04	763.1	75.2	24	70	SSE			2		2		NNW	0.283	7.2	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.97	735.8	30.11	764.8	90.5	32.5	32	SE			6		2		SE	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.83	757.7	30.04	763.0	77.0	25.0	68	SW			2		8		SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.70	754.4	30.00	761.9	77.5	25.3	60	W			1		5		W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.10	739.0	29.98	761.4	85.5	29.7	47	SSW			2		2		SW	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.92	759.9	30.02	762.4	79.0	22.8	69	S			3		5		S	0	0	⅗ covered	T. Carré, Director.
Mâcon, Normal School	29.30	744.1	29.96	761.0	77.4	25.2	81	N			2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	29.02	737.1	30.02	762.6	75.4	24.1	76	S			2		5		N	1.42	36.	Cloudy	Normal School
Nismes, Normal School	29.79	756.7	29.98	761.5	89.6	32	37	N			6		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.65	753.0	30.01	762.3	84.2	29	46	SE			2		2		S	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.77	756.1	30.00	761.9	80.2	26.8	39	WSW			1		5		SSW	0.011	0.27	Cloudy	National Observatory.
Privas	29.00	736.6	30.01	762.2	83.3	28.5	35	S			6		1		S	0	0	Clear	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	29.99	761.8	30.02	762.6	77.9	25.5	51	NW			1		10		NW	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.92	760.0	30.00	762.1	76.5	24.7	56	SSE			1		10		S	0	0	Covered	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.92	734.6	29.98	761.4	68.0	20	87	S			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.21	742.8	29.91	759.6	92.3	33.5	73	WSW			2		2		SW	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.90	759.5	80.6	27										11.53	293.		L'Abbé Marchési.
Lyons													0						L. Jays.
Marseilles, Observatory			29.98	761.6	89.8	32.1	27	SE			3-4		0			0	0	Clear	The Staff.
Mont-Louis	24.96	633.9	30.27	768.9	72.5	22.5	55	SSW	9.3	4.17			0			0	0		M. Cave.
Nice			30.10	764.5	80.2	26.8	64	SE			4		7		SSW	0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.73	755.1	30.00	762.1	84.6	28.9	43	SSW			2		2		E	0	0		Marié Davy, Director
Perpignan			29.96	761.0	81.3	27.4	75	SE	14.9	6.66						0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.												4							M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.2			62.1	16.7		SW			2		9		SSW	0	0	Fair	Gen'l de Nansouty
Saint Maur, (near Paris)	29.84	758.0	30.01	762.2	79.9	26.6	46	SW			1		7			0	0		E. Renou.
Toulouse, Observatory	29.26	743.1	30.03	762.8	79.7	26.5	65	SE			2		5		W	0	0		The Staff.
Tours	29.80	756.8	29.99	761.8	82.8	28.2	39	WNW			2		8			0	0		C. Marquet.
Versailles, (near Paris)			30.02	762.5	81.3	27.4	36	W			2					0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.75	755.7	29.78	756.3	89.8	27.1	96	SE	6.5	2.9		10ck				0	0	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 332 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,201.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,365 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.22	742.2	30.07	763.7	78.8	26.0	62	Calm			0		4	W		0	0		Prof. Dr. Hoh.
Berlin	29.92	759.9	30.08	764.1	79.7	26.5	42	E			1		0			0	0		Prof. Arndt.
Breslau	29.59	751.5	30.12	765.0	81.5	27.5	40	NNE			2		0			0	0		Royal University Obs'y
Carlsruhe	29.60	751.7	30.00	762.0	81.3	27.4	58	E			1		5			0.177	4.5		Albert Senz.
Cassel	29.42	747.3	30.03	762.7	84.2	29.0	44	SE			1		2	SW		0	0		Dr. H. Möhl.
Crefeld	29.86	758.4	30.02	762.5	78.8	26.0	56	SE			2		8			0	0		Director Lose.
Emden	29.92	760.0	29.96	761.0	80.4	26.9	55	NE			1.5		0			0	0		Prof. Prestel.
Fränkfort on the Main	29.72	755.0	30.07	763.8	82.4	28		SE			2		6			0	0		Physical Society.
Friedrichshafen	28.63	727.2	30.00	761.9	77.7	25.4	61	WNW					3	W		0.024	0.6		M. Wilhelm.
Hamburg	30.02	762.5	30.09	764.2	76.6	24.8	66	ESE			2		0			0	0	Clear.	Captain F. Hegemann.
Kiel	30.05	763.2	30.07	763.6	73.6	23.1	71	N			2		1			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.93	760.3	30.01	762.3	71.2	21.8	64	W			4		2			0	0		Prof. E Luther.
Köslin			30.11	764.7	72.5	22.5		NW			5		1			0	0		H. Müller.
Leipsic, Observatory	29.66	753.4	30.06	763.5	85.3	29.6	35	ENE			1		7			0	0		Prof. Bruhns.
Memel, Naval School	29.91	759.8	29.96	761.0	66.9	19.4	77	W			6		10k						Reinbrecht and Skalweit.
Neufahrwasser	30.03	762.7	30.04	763.1	77.7	25.4	43	WSW			2		0			0	0		A. Lothes.
Posen	29.84	757.8	30.11	764.8	80.6	27.0	43	WSW			1		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.61	749.6	30.04	762.9	82.4	28.0	57	NE			2		3	SW		0.068	1.72		Astronomical Observatory.
Stuttgart	29.13	739.8	30.02	762.4	84.6	29.2	45	NE			1		2	N		0.154	3.9		Prof. Schoder.
Treves, (Trier)	29.38	746.3	29.90	759.5	82.4	28.0	48	W			1		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.76	726.0	29.62*	752.4*	82.9	28.3	42	SSE	2	1			2c			0	0		Dr. Von Bebber.
Wustrow, Naval School	30.08	763.9	30.11	764.9	71.4	21.9	78	W			1		0			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time. *Probably 30.02 inches or 762.4 mm.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.68	753.8	30.05	763.3	65.5	29.7		NE			5.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.50	749.3	29.55	750.5	87.5	30.8	71	WSW	35?	15.6?			10		WSW	0	0	Overcast	
Deesa	29.08	738.7	29.55	750.6	85.4	29.7	79	SSE					9	SE	ESE	0	0	Thunder	
Bombay	29.64	752.7	29.67	753.7	78.5	25.8	93	W	25	11.2			10		SW	3.60	91.4	Overcast	
Poona	27.69	703.3	29.70	754.3	74.3	23.5	91	SSW					10		SSW	0.06	1.5	Drizzling	
Lahore	28.70	729.0	29.40	746.9	102.3	39.1	44	NE	3.1	1.4			0			0	0	Misty	
Belgaum	27.22	691.5	29.78	756.3	71.3	21.8	94	WNW	11	4.9			10		WNW	0.19	4.8	Showery	
Bangalore																			
Roorkee	28.59	726.2	29.46	748.2	90.8	32.7	65	SE	5.1	2.3			2			0	0		
Agra	28.93	734.8	29.47	748.6	94.1	34.5	67	N								0	0		
Trichinopoly																			
Nagpur	28.52	724.5	29.55	750.5	84.6	29.2	78	Calm	2.7	1.2			10		SE	0	0	Overcast	
Madras																			
Lucknow	29.14	740.0	29.49	749.1	94.1	34.5	61	NE	4.6	2.1			10			0	0	Overcast	
Allahabad	29.21	741.9	29.51	749.5	92.9	33.8	74	E	1.5	0.7			9		NE	0	0	D. clouds	
Patna	29.39	746.6	29.57	751.1	86.6	30.3	80	E	1.0	0.4			6	E	E	0	0	D. clouds	
Hazaribagh	27.59	700.8	29.59	751.6	75.8	24.3	90	E	6.2	2.8			10			0.04	1.0	Thunder-storm	
Cuttack	29.45	748.0	29.53	750.1	84.8	29.3	81	ENE	8.1	3.6			8			0.88	22.4	D. clouds	
Calcutta (Alipore)	29.57	751.2	29.60	751.7	83.7	28.7	83	SE	8	3.6			10	SE		0	0	Overcast	
Goalpara	29.24	742.7	29.63	752.6	78.2	25.7	93	Calm	5.2	2.3			9			0.63	16.0	D. clouds	
Chittagong	29.56	750.7	29.57	751.0	84.9	29.4	83	Calm	4.1	1.8			10			0.02	0.5	Gloomy	
Sibsagar	29.33	745.0	29.66	753.5	82.2	27.9	82	Calm	4.8	2.2			10	W	W	0.5	11.9	Overcast	
Rangoon																			
Jubbulpore	28.23	716.9	29.57	751.2	82.0	27.8	70	SSE	3.2	1.4			10			0.04	10.3	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.60	754.2	30.09	764.2	85.1	29.5	45	W	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.97	761.2	30.08	763.9	84.7	29.3	58	W	0.7	0.3	.....	.....	9	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.88	759.0	30.07	763.7	88.0	31.1	44	S	2.5	1.1	.....	.....	2	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.78	730.9	30.03	762.8	87.8	31.0	49	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Moncalieri	29.19	741.5	30.06	763.4	86.0	30.0	49	SSE	3.1	1.4	.....	.....	4	NE	.....	0.04	1.2	.....	Prof. Schiaparelli.
Mondovi	28.21	716.4	30.03	762.8	82.6	28.1	54	NE	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. P. F. Denza.
Porto Maurizio	29.88	758.9	30.09	764.3	77.5	25.3	80	E	.....	.....	6	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.93	760.1	30.09	764.3	81.0	27.2	63	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Parma	29.76	755.9	30.07	763.6	86.7	30.4	43	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.83	757.6	30.07	763.8	90.5	32.5	29	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Leghorn	29.90	761.7	30.07	763.7	84.6	29.2	53	SSW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Pesaro	30.03	726.8	30.08	764.0	81.0	27.2	71	NE	.....	.....	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Urbino	28.60	726.5	30.10	764.4	83.5	28.6	48	NNW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Luigi Guidi.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Serpieri.
Rome	29.92	759.9	30.09	764.2	92.5	33.6	28	W	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Avv. P. Ponticelli.
Naples, O. U.	29.91	759.8	30.11	764.7	87.1	30.6	47	SSW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Lecce	.....	.....	.....	.....	86.5	30.3	30	N	4.9	2.2	.....	.....	1	S	.....	0	0	.....	Prof. L. Palmieri.
Cagliari	29.83	758.4	30.04	763.1	88.0	31.1	42	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.18	741.1	30.02	762.4	91.0	32.8	56	SW	0.7	0.3	.....	.....	5	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.87	758.6	30.11	764.8	82.4	28.0	52	NE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Syracuse	30.02	762.4	30.09	764.3	86.7	30.4	51	S	.....	.....	4	.....	3	W	.....	0	0	.....	Prof. G. Cacciatore.
Sub-Series.																			
Naples, S. R.	29.56	750.9	30.12	765.0	86.7	30.4	52	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.74	755.4	29.94	760.5	75.3	24.1	89	SSW	0.6	0.3	.....	.....	0	.....	.....	0.075	1.91	Fair	
Tokei (Yeddo) Observatory	29.93	760 2	29.99	761.7	75.0	23.9	76	SW	6.8	3.0	.....	.....	10s	.....	.....	0.020	0.51	Cloudy	I. Arai, Director.
Tokei (Yeddo) University	29.89	759.2	29.98	761.5	75	23.9	88	SW	4	1.8	.....	1cs	8ks	.....	.....	0	0	Cloudy	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	25.05	636.3	29.99	761.8	69.8	16.0	83	E	1.8	0.8	.....	0	8	.....	NE	0.01	0.2	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	63.5	17.4	71	SE	1.8	0.8	.....	4c	2k	NE	.....	0.23	5.8	½ cloudy	Prof. M. Leal.
Mexico	23.14	587.8	30.14	765.6	57.0	13.9	90	NW	1.1	0.5	.....	0	10k	.....	.....	0.14	3.5	Covered	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.8	18.2	80	SE	0.9	0.4	.....	0	9ns	.....	.....	0.17	4.3	Very cloudy	M. V. de Leon, M. E.
Puebla	23.38	593.8	30.14	765.5	58.8	14.9	91	NE	.....	.....	.....	5cs	5n	.....	.....	0	0	Very cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.92	760.0	29.94	760.3	77.0	25.0	87	N	1.8	0.8	.....	10ck	0	NNE	.....	0.04	1.0	Threatening	Prof. F. R. Bayly.
San Luis Potosi	22.25	615.1	30.06	763.4	65.1	18.3	53	E	0.9	0.4	.....	0	10	.....	E	0.40	10.1	Cloudy	G. Barroeta, M. D.
Vera-Cruz	30.02	762.4	30.05	763.0	79 7	26.5	89	SE	.....	.....	.....	0	10n	.....	.....	0 95	24.2	Rainy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.9	15.5	90	NNE	5.1	2.3	.....	0	10	.....	.....	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.30	592.0	30.05	763.2	57.2	14.0	77	NE	2.2	1.0	.....	1	1	E	E	0.15	3.8	Clear	Prof. P. Spina. [M.M.D.D.
Morelia	24.15	613.5	.....	.....	64.4	18.0	66	E	.....	.....	.....	0	0k	.....	E	0.93	23.6	½ cloudy	M. Tena, F.L. Paramo,
Durango	24.29	617.0	30.08	764.0	70.0	21.1	87	NNE	0.9	0.4	.....	5cs	0	E	.....	0.14	3.5	½ cloudy	M. V. de Leon, C. E.
Colima	28.37	720.5	29.99	761.7	79.7	26.5	84	.....	.....	.....	.....	.....	.....	.....	.....	0.41	10.5	Covered	R. Banda, C. E.
San Juan E. Mirhapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,851 m., or 6,195.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m.; or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,323 m., or 4,014.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,153 m., or 7,065.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,833 m., or 5,310.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,949 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.03	762.8	30.03	762.8	81.3	27.4	.....	NW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Groningen	30.01	762.3	30.07	763.7	77.7	25.4	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	30.05	763.2	30.05	763.2	66.9	19.4	.....	NNE	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.01	762.3	30.01	762.3	83.5	28.6	68	ENE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.98	761.4	30.02	762.6	83.3	28.5	54	NE	.....	.....	2	.....	2	.....	.....	0.169	4.3	Light cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bergen	30.02	762.4	30.07	763.8	56.5	13.6	94	WNW	11.6	5.2	.....	.....	8	.....	.....	0.236	6.0	.....	
Brönö	29.60	751.7	29.63	752.7	47.8	8.8	89	SW	27	12	.....	.....	10	.....	.....	0.610	15.5	Raining	
Christiania	29.68	753.9	29.82	757.4	73.0	22.8	48	W	18	8	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.33	745 0	29.37	746.1	53.2	11.8	74	Calm	0	0	.....	.....	10	.....	.....	0.276	7.0	Light rain	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.11	764.9	30.30	769.6	77.0	25.0	85	W	2.9	1.3	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.04	737.6	30.02	762.4	82.8	28 2	33	WNW	8.7	3.9	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.18	766.6	30.27	768.8	73.9	23.3	65	WSW	3.8	1.7	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.4	30.13	765.4	70.0	21.1	73	NNE	18.6	8.3	.....	.....	9	.....	.....	Blank	Blank	.....	The Staff.
Ponta Delgada, (Azores)	30.28	769.1	30.35	770.8	78.8	26.0	73	SW	6.3	2.8	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. H. Bastos, Com'd't.
Quanza, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.3	71.2	21.8	.....	W	.....	.....	1	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.20	767.0	70.7	21.5	.....	ESE	.....	.....	5	.....	1	.....	SE	3	ESE	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	30.03	762.7	82.4	28.0	.....	NE	.....	.....	3	.....	6	.....	NE	2	NNE	D. Clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.99	761.7	71.2	21.8	.....	W	.....	.....	1	.....	0	.....	.....	1	.....	Blue sky	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.65	753.0	30.05	763.3	76.6	24.8	49	W	4	2	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.58	751.2	29.98	761.4	70.9	21.6	53	W	2	1	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.61	752.2	29.85	758.1	68.5	20.3	55	WSW	11	5	.....	.....	9ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.69	754.0	29.70	754.4	64.9	18.3	61	WNW	20	9	.....	.....	2k;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Knopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.33	745.0	29.94	760.5	71.6	22.0	41	NW	11	5	.....	.....	7k;c	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	30.01	762.3	30.08	764.1	75.9	24.4	49	W	9	4	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.08	763.9	30.10	764.4	74.8	23.8	62	NW	7	3	.....	.....	4	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	30.12	739.6	29.65	753.1	63.7	17.6	44	N	13	6	.....	.....	7cs	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	30.66	753.4	29.56	758.5	72.3	22.4	37	WNW	22	10	.....	.....	6cs	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.40	746.7	29.42	747.2	55.6	13.1	75	WNW	22	10	.....	.....	1c	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.61	726.7	29.96	761.0	80.1	26.7	32	NW	31	14	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.88	758.9	29 80	756.8	76.3	24.6	32	WNW	20	9	.....	.....	8k	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	28.95	735.2	29.20	741.6	71.6	22.0	69	W	2	1	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.37	720.7	29.26	743.3	70.0	21.1	44	SW	9	4	.....	.....	7ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.35	745.4	29.56	750.9	94.5	34.7	49	NNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	27.98	710.6	29.52	749.9	95.0	35.0	66	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.08	738.6	29.56	750.9	78.3	25.7	55	SE	4	2	.....	.....	4	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.21	742.0	29.48	748.9	80.8	27.1	64	W	4	2	.....	.....	3	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.56	750.9	29.71	754.5	70.9	21.6	96	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.27 ft. * N. 53° 47′, F. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.95	760.7	82.8	28.2	61	SE	1.4	0.61	.....	5	8ks	SW	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.98	761.4	30.03	762.8	74.5	23.6	79	NW	1 2	0.53	.....	2	4	.....	.....	0.067	1.7	Cloudy	Prof. Manuel de Navera.
Burgos, Met. Obs'y	27.10	688.3	.....	.....	78.8	26.0	49	N	5.9	2.66	.....	.....	7	.....	.....	0	0	Clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.78	705.7	29.57	758.6	59.1	31.7	19	W	14.2	6.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.80	757.0	29.95	760.6	99.1	37.3	30	SE	3.2	1.42	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.19	741.3	30.07	763.6	67.1	19.5	82	NW	8.2	3.66	.....	.....	10	.....	.....	0.008	0.2	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.96	761.0	30.02	762.6	82.3	27.9	86	E	4.5	2.0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.99	761.6	30.06	764.0	76.3	24.6	61	W	16.7	7.4	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.4	29.99	761.7	84.6	29.2	81	SE	5.4	2.41	.....	6s	2k	E	E	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.45	748.0	29.49	749.0	54.3	12.4	.....	S	.....	.....	2	.....	10	.....	.....	0	0	.....	
Umea	29.59	749.2	29.55	750.5	61.9	16.6	68	SW	.....	.....	6	.....	8	.....	.....	0	0	.....	
Hernosand	29.56	750.7	29.61	752.0	66.2	19.0	76	WNW	.....	.....	6	.....	3	.....	.....	0.059	1.5	Raining	
Stockholm	29.55	750.6	29.73	755.1	70.3	21.3	64	WSW	.....	.....	6	.....	5	.....	.....	0.008	0.2	.....	
Wisby	29.77	756.2	29.83	757.7	68.4	20.2	74	W	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.53	750.0	29.60	751.9	72.9	22.7	52	W	11.2	5.0	.....	.....	8	WNW	WNW	0.004	0.10	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.63	727.2	29.09	761.7	78.3	25.7	60	NNE	.....	.....	3	.....	1	.....	.....	0.012	0.3	Clear.	The Observatory.
Zurich	28.45	722.5	29.98	761.6	84.2	29.0	50	N	.....	.....	.....	.....	2	.....	.....	0.016	0.4	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.5 mm.; Thermometer, +3.0 cent.; Relative Humidity, +8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES.

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.16	766.0	74.1	23.4	53	ENE	16	7.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.17	766.3	83.7	28.7	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.67	753.6	29.78	756.4	86.0	30.0	64	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.26	743.2	29.34	745.2	59.0	15.5	94	NE	15	6.7	.....	.....	10n	.....	.....	1.55	39.4	Overcast	Hon. J. Ferguson.
Brockville, Ontario	29.28	743.7	29.58	751.8	60	15.6	.....	NW	1	0.4	.....	.....	10s	.....	NW	0.06	1.5	Light rain	W. R. Bigg.
*Chatham, N B	29.27	743.4	29.33	745.0	60	15.6	97	N	3	1.3	.....	.....	10n	.....	Calm	2.18	55.4	Light rain	G. A. Blair.
Charlottetown, P. E. Island	29.29	744.0	29.34	745.2	63	17.2	97	SE	10	4.5	.....	.....	10n	.....	Calm	1.250	31.75	Light rain	H. J. Cundall, C. E.
Cornwall, Ontario	29.32	744.7	29.50	749.3	62.2	16.8	79	NW	.....	.....	5	.....	10s	.....	.....	0.032	0.81	Overcast	James Smith, M. A.
Dalhousie, N. B	29.22	742.2	29.37	746.0	56.5	13.6	100	E	.....	.....	4	.....	.....	.....	.....	1.04	26.4	Raining	H. A. Johnson.
Esquimault, B. C	29.97	761.2	30.02	762.5	51.3	10.7	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Revis.
*Father Point, Quebec	29.44	747.8	29.40	748.3	48	8.9	97	N	18	8.0	.....	.....	Fog	.....	E	1.83	46.5	Foggy	J. McWilliams.
Fredericton, N. B	29.26	743.2	29.32	744.7	65.6	18.7	92	SE	4	1.8	.....	.....	10n	.....	.....	1.265	32.13	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.38	746.2	30.19	766.8	61	16.1	97	S	3	1.3	.....	2c	2s	W	W	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.85	732.8	29.91	759.7	64	17.8	78	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.19	741.4	29.31	744.5	64	17.8	93	SE	1	0.4	.....	.....	Fog	.....	.....	0.387	9.83	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.53	750.0	29.58	751.3	65.5	18.6	66	NW	.....	.....	3	8c	0	N	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.92	760.0	29.94	760.5	61	16.1	45	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.32	744.7	29.64	752.8	63	17.2	69	NW	21	9.4	.....	.....	10ks	.....	NW	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.41	747.0	29.45	748.0	57.0	13.9	.....	S	22	9.8	.....	.....	10n	.....	.....	0.33	8.4	Raining	C. H. Rigby.
*Montreal, Quebec	29.25	742.9	29.45	748.0	62	16.7	91	W	18	8.0	.....	.....	10n	.....	.....	1.47	37.3	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.18	741.2	29.85	758.2	63	17.2	83	NW	22	9.8	.....	2ck	0	N	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.03	737.3	29.74	755.4	63.2	17.3	62	NW	.....	.....	5	8k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.22	742.2	29.88	758.9	65	18.3	68	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.93	760.2	66	18.9	63	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.18	739.9	29.44	747.8	56	13.3	100	E	.....	.....	6	.....	10n	.....	E	0.16	3.8	Light rain	Capt. Ashe, R. N
*Rockliffe, Ontario	29.28	743.7	29.73	755.1	58	14.4	85	NW	15	6.7	.....	.....	10s	.....	NW	0.03	0.8	Light rain	W. H. McIntyre.
St. Andrews, N. B	29.30	744.2	29.85	758.5	56	13.3	97	Calm	0	0	.....	.....	Fog	.....	.....	1.33	33.8	Foggy	Dr. Gove.
St. John, N. B	29.20	741.7	29.36	745.7	61	16.1	100	S	6	2.7	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.22	742.2	29.91	759.7	64	17.8	76	NW	29	13.0	.....	.....	10ks	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.07	738.4	29.81	757.2	65	18.3	63	NW	16	7.2	.....	2k	Haze	N	.....	0	0	Hazy	R. J. Cole.
Stratford, Ontario	28.64	727.4	29.88	758.9	60.7	15.9	71	NW	13	5.8	.....	2k	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.41	747.0	29.44	747.8	57	13.9	99	E	18	8.0	.....	.....	10n	.....	.....	0.17	4.3	Light rain	T. C. Hill.
*Toronto, Ontario	29.46	748.0	29.82	757.4	65	18.3	62	W	13	5.8	.....	8cs	Haze	W	Calm	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	64.0	17.8	53	SE	.....	.....	.....	.....	10n	.....	.....	Inap.	Inap.	Overcast	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the SECRETARY OF WAR.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.33	745.0	29.54	750.3	66	18.9	69	W	17	7.6	.....	.....	10ks	.....	W	0.63	16.0	Cloudy.	
Alpena, Michigan	29.42	747.3	30.04	763.0	66	18.9	45	N	12	5.4	.....	0j	0	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	29.64	752.8	29.66	753.4	72	22.2	67	W	16	7.2	.....	0	0	.....	.....	Inap.	Inap.	Clear.	
Augusta, Georgia	29.71	754.6	29.88	758 9	80	32.2	63	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Baltimore, Maryland	29.70	754.4	29.75	755.6	73	22.8	55	N	12	5.4	.....	0	0	.....	.....	0.05	1.3	Clear.	
Barnegat, New Jersey	29.62	752.3	29.64	752.8	72	22.2	62	NW	20	8.9	.....	0	0	.....	.....	0.03	0.8	Clear.	
Bismarck, Dakota	28.30	718.8	30.16	766.1	63	17.2	84	E	3	1.3	.....	.....	10s	.....	SE	0.63	16.0	Cloudy	
BoiseCity, Idaho	27.12	688.8	30.00	762.0	64	17.8	52	S	4	1.8	.....	5k	0	SW	.....	0	0	Fair.	
Boston, Massachusetts	29.30	744.2	29.44	747.8	69.5	20.8	65	W	15	6.7	.....	3cs;k	0	NW	.....	0.64	16.3	Fair	
Brackettville, Texas	28.87	733.3	29.86	758.4	77	25.0	82	E	1	0.4	.....	2c	0	Calm	.....	Inap.	Inap.	Clear.	
Breckenridge, Minnesota	29.14	714.7	30.12	765.0	63	17.2	92	E	8	3.6	.....	10k	0	SW	.....	0	0	Cloudy.	
Brownsville, Texas	29.96	735.6	30.02	762.5	78	25.6	95	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair.	
Buffalo, New York	29.11	714.0	29.78	756.4	65	18.3	58	W	15	6.7	.....	5c	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	51	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Burlington, Vermont	29.24	717.3	29.48	748 8	64	17.8	72	NW	10	4.5	.....	.....	10s	.....	NW	0.01	0.3	Cloudy	
Cairo, Illinois	29.71	729.2	30.07	763.8	73	22.8	59	NE	12	5.4	.....	2c	0	Calm	.....	0	0	Fair.	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	68	Calm	.....	.....	0	0	2ks	.....	NE	Blank	Blank	Fair.	
Camp Grant, Arizona	25 27	641.8	30.09	764 3	68	20.0	74	E	.....	.....	1	1c	0	Calm	.....	0	0	Clear.	
Camp Verde, Arizona	26.78	680.2	30.27	768.8	72	22.2	85	SW	.....	.....	1	5cs	0	Calm	.....	0.66	16.5	Fair	
Campo, California	27.43	696.7	30.00	762.0	55	12.8	87	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Cape Hatteras, N. Carolina	29.78	756.4	29.78	756.4	78	25.6	86	N	10	4.5	.....	0	8ks	.....	NW	0.40	10.2	Fair.	
Cape Henry, Virginia	29.77	756.1	29.80	756.9	76	24.4	60	NW	15	6.7	.....	8c;ck	0	NW	.....	0.10	2.5	Clearing.	
Cape Lookout, N. Carolina	29.79	756.7	29.81	757.2	82	27.8	87	W	25	11.2	.....	2cs	5ks	N	W	0.17	4.3	Cloudy.	
Cape May, New Jersey	29.70	754.4	29.73	755.1	73	22.8	63	NW	35	15.6	.....	0	0	.....	.....	0.25	6.3	Clear.	
Castroville, Texas	29.21	741.9	29.88	758.9	79	26.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Charleston, South Carolina	29.85	758.2	29.92	760.0	84	28.9	75	SW	9	4.0	.....	1c	0	Calm	.....	0	0	Clear.	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	61	16.1	77	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.41	747.0	30.07	763.8	71	21.7	58	NE	8	3.6	.....	0	Sm'e	.....	.....	0	0	Clear.	
Cincinnati Ohio	29.35	745.5	29.98	761.5	69	20.6	65	N	7	3.1	.....	7c	0	NW	.....	0	0	Fair.	
Cleveland, Ohio	29.24	742.7	29.93	760.2	70	21.1	53	N	22	9.8	.....	2k	Haze	N	Calm	0	0	Fair.	
Columbus, Ohio	29.19	741.4	29.97	761.2	67	19.4	64	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.	
Concho, Texas	28.12	714.2	29.71	745.6	76	24.4	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Corsicana, Texas	29.52	749.8	29.96	761.0	82	27.8	83	N	2	0.9	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.53	750.0	30.15	765.8	66	18.9	79	NE	1	0.4	.....	8c;cs	0	W	.....	0	0	Fair	
Denison, Texas	29.20	741.7	29.96	761.0	82	27.8	83	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair.	
Denver, Colorado	24.90	632.4	30.12	765.0	67	19.4	84	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Detroit, Michigan	29.32	744.7	29.97	761.2	63	17.2	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dodge City, Kansas	27.47	697.7	29.62	752.3	80	26.7	66	S	8	3.6	.....	2cs	0	SW	.....	0	0	Fair.	
Dubuque, Iowa	29.46	748.3	30.14	765.5	66	18.9	74	NE	3	1.3	.....	8c	0	N	.....	0	0	Fair	
Duluth, Minnesota	29.51	749.5	30.17	766.3	66	18.9	54	N	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.	
Eagle Pass, Texas	29.26	743.2	29.96	761.0	78	25.6	82	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair.	
Eastport, Maine	29.26	743.2	29.32	744.7	58	14.4	100	S	6	2.7	.....	.....	Fog	.....	Calm	2.00	50.8	Foggy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	96	SE	4	1.8	.....	.....	10n	.....	SE	0.04	1.0	Light rain.	
Erie, Pennsylvania	29.17	740 9	29.86	758.4	67	19.4	69	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.50	742.3	30.14	765.5	63	17.2	67	N	9	4.0	.....	Haze	Haze	.....	.....	0	0	Hazy.	
Florence, Arizona	.....	.....	.....	.....	80	26.7	62	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	27.31	612.9	30.27	767.3	71	21.7	67	NW	3	1.3	.....	2c	0	W	.....	0	0	Fair.	
Fort Gibson, Indian Ter	29.46	748.3	29.97	761.2	79	26.1	87	NE	1	0.4	.....	5c	5s	Calm	N	0	0	Cloudy.	
Fort Griffin, Texas	28.75	730.2	29.96	761.0	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.82	732.0	29.87	758.7	77	25.0	82	N	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Galveston, Texas	29.95	760.7	29.99	761.7	82	27.8	87	W	12	5.4	.....	10k	0	W	.....	0	0	Cloudy.	
Grand Haven, Michigan	29.46	748.3	30.09	764.3	65	18.3	68	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear.	
Indianapolis, Indiana	29.29	744.0	30.05	763.3	64	17.8	68	N	5	2.2	.....	8cs	0	Calm	.....	0	0	Fair.	
Indianola, Texas	29.98	761.5	30.00	762.0	82	27.8	83	W	7	3.1	.....	2c	0	NE	.....	0	0	Fair.	
Jacksboro, Texas	28.87	733.3	29.94	760.5	80	26.7	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	29.95	760.7	29.97	761.2	84	28.9	70	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Keokuk, Iowa	29.48	748.8	30.07	763.8	73	22.8	63	E	4	1.8	.....	1ck	2s	E	Calm	0	0	Fair.	
Key West, Florida	30.00	762.0	30.03	762.7	85	29.4	72	SE	5	2.2	.....	0	5ks	.....	SE	0	0	Fair.	
Kittyhawk, North Carolina	29.75	755.6	29.78	756.4	75	23.9	68	N	14	6.3	.....	5cs	0	W	.....	0	0	Fair.	
Knoxville, Tennessee	29.98	734.1	29.93	760.2	75	23.9	64	N	2	0.9	.....	3cs	0	N	.....	1.21	30.7	Fair.	
La Crosse, Wisconsin	29.41	747.0	30.14	765.5	62	16.7	83	N	4	1.8	.....	2c	0	N	.....	0	0	Clear.	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	68	20.0	84	Calm	0	0	.....	0	5s	.....	Calm	0.12	3.0	Fair.	
Laredo, Texas	29.57	751.1	29.90	759.4	80	26.7	87	SE	2	0.9	.....	0	0	.....	.....	0.01	0.3	Clear.	
Lead City, Dakota	24.94	633.5	.....	.....	62	16.7	88	S	1	0.4	.....	.....	10n	.....	Calm	0.28	5.8	Heavy rain.	
Leavenworth, Kansas	29.22	742.2	30.03	762.7	73	22.8	72	E	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair.	
Los Angeles, California	29.62	752.3	29.95	760.7	64	17.8	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Louisville, Kentucky	29.45	748.0	29.99	761.7	68	20.0	70	N	8	3.6	.....	8c	0	NW	.....	0	0	Fair.	
Lynchburg, Virginia	29.18	741.2	29.81	757.2	80	26.7	47	NW	6	2.7	.....	2cs	0	Calm	.....	0.25	6.3	Clear.	
Marquette, Michigan	29.45	748.0	29 14	765.5	64	17.8	68	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Mason, Texas	28.36	720.3	30.03	762.7	80	26.7	70	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Memphis, Tennessee	29.72	754.9	30.03	762.7	79	26.1	65	NE	10	4.5	.....	5c	0	S	.....	0	0	Fair.	
Milwaukee, Wisconsin	29.41	747.0	30.12	765.0	63	17.2	72	N	9	4.0	.....	Haze	Haze	.....	.....	0	0	Hazy.	
Mobile, Alabama	29.95	760.7	29.99	761.7	80	26.7	87	SW	2	0.9	.....	2k	8s	Calm	Calm	Inap.	Inap.	Cloudy.	
Montgomery, Alabama	29.73	755.1	29.96	761.0	81	27.2	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Morgantown, West Virginia	28.88	733.5	29.88	758.9	71	21.7	62	N	8	3.6	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Clear.	
Mt. Washington, N. H.	23.37	593.6	29.73	755.1	43	6.1	100	NW	40	17.9	.....	.....	10n	.....	NW	1.33	33.8	Light rain.	
Nashville, Tennessee	29.50	749.3	30.01	762.2	73	22.8	67	N	6	2.7	.....	5c	0	Calm	.....	0	0	Fair.	
New Haven, Connecticut	29.44	747.8	29.54	750.3	76	24.4	64	NW	9	4.0	.....	2k	0	W	.....	0.09	2.3	Clear.	
New London, Connecticut	29.47	748.5	29.52	749.8	74	23.3	63	NW	12	5.4	.....	0	1s	.....	W	0.50	12.7	Clear.	
New Orleans, Louisiana	29.93	760.2	29.98	761.5	78	25.6	86	W	4	1.8	.....	0	0	.....	.....	2.74	69.6	Clear.	
Newport, Rhode Island	29.45	748.0	29.59	749.3	71	21.7	69	W	12	5.4	.....	0	0	.....	.....	0.09	2.3	Clear.	
New York, New York	29.44	747.8	29.80	757.8	71	21.7	57	NW	25	11.2	.....	1k	5ks	NW	NW	0.42	10.7	Fair.	
Norfolk, Virginia	29.76	755.9	29.81	757.2	77	25.0	53	N	12	5.4	.....	5c	0	Calm	.....	0.37	9.4	Fair.	
North Platte, Nebraska	27.14	689.3	29.59	751.6	72	22.2	90	SE	18	8.0	.....	2k	0	SE	.....	0	0	Clear.	
Olympia, Washington Ter.	30.01	762.2	30.05	763.3	46	7.8	92	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear.	
Omaha, Nebraska	28.99	736.3	30.03	762.7	72	22.2	76	SE	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy.	
Oswego, New York	29.39	746.7	29.66	753.4	65	18.3	68	NW	22	9.8	.....	.....	10s	.....	NW	0	0	Cloudy	
Pembina, Dakota	29.38	746.2	30.19	766.8	57	13.9	94	S	3	1.3	.....	1ck	0	W	.....	0	0	Clear.	
Philadelphia, Pennsylvania	29.63	752.6	29.67	753.6	72	22.2	59	NW	32	14.3	.....	1k	0	NW	.....	Inap.	Inap.	Clear.	
Phœnix, Arizona	28.75	730.0	30.41	772.4	83	28.3	71	Calm	.....	.....	0	8c	0	Calm	.....	0	0	Fair.	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	42	6.1	67	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Pioche, Nevada	24.17	613.9	29.91	760.5	65	18.3	53	S	1	0.4	.....	0	2s	.....	Calm	0.07	1.8	Fair.	
Pittsburg, Pennsylvania	29.05	738.0	29.80	757.4	67	19.4	69	NW	8	3.6	.....	Haze	0	Calm	.....	0.03	0.8	Clear.	
Port Huron, Michigan	29.30	744.2	29.94	760.5	65	18.3	63	N	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Portland, Maine	29.33	745.0	29.38	746.2	69	20.6	75	W	8	3.6	.....	5k	Haze	W	.....	0.30	7.6	Fair.	
Portland, Oregon	30.00	762.0	30.10	764.5	54	12.2	87	NW	1	0 4	.....	0	2s	.....	SW	0	0	Clear.	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.79	629.6	30.15	765.8	57	13.9	41	Calm	.....	.....	0	2cs	0	Calm	.....	Inap.	Inap.	Clear	
Punta Rassa, Florida	30.03	762.7	30.05	763.3	81	27.2	78	SE	4	1.8	.....	2c	5s	SW	SE	0	0	Fair	
Red Bluff, California	29.52	749.8	29.87	758.7	68	20.0	51	SE	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.11	739.4	29.69	754.1	64	17.8	63	NW	16	7.2	.....	8k	0	NW	.....	0	0	Fair	
Roseburg, Oregon	29.53	750.0	30.10	764.5	48.(	9.2	96	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Sacramento, California	29.80	756.9	29.88	758.9	61	16.1	71	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.51	749.5	30.07	763.8	72	22.2	54	NE	12	5.4	.....	2c	0	Calm	.....	0	0	Clear	
St. Marks, Florida	29.97	761.2	29.99	761.7	82	27.8	83	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.32	744.7	30.12	765.0	65	18.3	73	NE	4	1.8	.....	5cs	0	NW	.....	0	0	Fair	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	75	23.9	40	N	4	1.8	.....	5k	0	W	.....	Inap.	Inap.	Fair	
San Antonio, Texas	29.30	744.2	29.86	758.4	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.93	760.2	30.00	762.0	63	17.2	88	NE	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.35	745.5	29.98	761.5	68	20.0	65	N	28	12.5	.....	0	Haze	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	29.58	751.3	29.61	752.1	73	22.8	59	NW	24	10.7	.....	2k	0	NW	.....	1.06	26.9	Clear	
San Francisco, California	29.90	759.4	29.96	761.0	55	12.8	87	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.46	595.9	30.00	762.0	56	13.3	63	E	1	0.4	.....	1cs	0	Calm	.....	Inap.	Inap.	Clear	
Savannah, Georgia	29.82	757.4	29.90	759.4	85	29.4	79	SW	10	4.5	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.78	756.4	29.98	761.5	83	28.3	75	NE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Silver City, New Mexico	24.41	620.0	30.41	772.4	61	16.1	82	S	2	0.9	.....	2k	0	Calm	.....	0.05	1.3	Fair	
Smithville, North Carolina	29.84	757.9	29.87	758.7	81	27.2	87	W	6	2.7	.....	.....	10s	.....	W	0.13	3.3	Cloudy	
Springfield, Massachusetts	29.34	745.2	29.46	748.3	70	21.1	61	W	8	3.6	.....	.....	8ks	.....	W	0.04	1.0	Cloudy	
Stockton, Texas	26.99	685.5	29.99	761.7	70	21.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.38	746.2	29.42	747.3	69	20.6	75	NW	12	5.4	.....	1k	0	NW	.....	0.40	10.2	Clear	
Toledo, Ohio,	29.32	744.7	29.98	761.5	64	17.8	65	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.48	698.7	29.99	761.7	78	25.6	69	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.87	758.7	29.89	759.2	84	28.9	75	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.61	752.1	.....	.....	67	19.4	46	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.75	755.6	30.00	762.0	80	26.7	87	N	2	0.9	.....	5c	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.37	619.0	29.85	758.2	66	18.9	41	Calm	0	0	.....	0	0	.....	.....	0	0	Fair	
Visalia, California	29.54	750.3	29.89	759.2	73	22.8	55	W	4	1.8	.....	.....	10ks	.....	S	0	0	Clear	
Washington, D. C	29.70	754.4	29.81	757.2	72	22.2	62	NW	13	5.8	.....	0	0	.....	.....	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	.....	Calm	.....	.....	0	5cs	0	Calm	.....	0.07	1.8	Clear	
Wilmington, N. Carolina	29.76	755.9	29.84	757.9	83	28.3	83	SW	8	3.6	.....	5c	0	Calm	.....	0.23	5.8	Fair	
Winnemucca, Nevada	25.69	652.5	30.05	763.3	65	18.3	22	SW	12	5.4	.....	2ck	8ks	S	SW	0	0	Cloudy	
Wood's Holl, Mass	29.42	747.3	29.47	748.5	73	22.8	71	NW	14	6.3	.....	Haze	2s	Calm	NW	0.05	1.3	Clear	
Yankton, Dakota	28.84	732.5	30.09	764.3	69	20.6	75	SE	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Yuma, Arizona	29.67	753.6	29.83	757.7	82	27.8	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.98	761.5	30.03	762.7	63.0	17.2	89	E	21	9.4	.....	5k	8s	S	E	1.10	27.9	Raining	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.98	761.5	30.00	762.0	83	28.3	83	SE	2.4	1.1	.....	0	0	.....	.....	0.70	17.8	Clear	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.10	764.5	30.11	764.8	81	27.2	83	N	2	0.9	.....	8c	0	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I	29.87	758.7	29.95	760.7	85	29.4	.....	E	32.5	14.5	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	82	27.8	83	E	2	0.9	.....	0	5ck	.....	.....	0	0	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Medellin, Colombia, S. A	25.23	640.8	.....	.....	65.6	18.6	85	SE	10	4.5	.....	.....	10n	.....	.....	0.02	0.5	.....	Thomas Herran.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,708 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,633 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,600 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,192 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.6 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,898 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 776.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,060 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.83 inches; Camp Verde, 3.485 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	57	13.9	54.5	12.5	93	SW	30	13.4	.....	.....	10	.....	SW	.....	.....	.....	.....	Dense fog....	
Navy Yard, Pensacola, Fla.	30.13	765.3	83	28.3	83	28.3	85	Calm	0	0	.....	.....	5	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N. H.	29.54	750.3	75	23.9	71	21.7	62	WNW	5	2.2	.....	.....	5	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	30.01*	762.2*	76.5	24.7	76.7	24.8	75	SW	.....	.....	3	.....	9k;ks	.....	SSW	0	0	.....	.....	Cloudy.	
Adams, Apia, Samoan Islands	30.07	763.8	76	24.4	75	23.9	90	SE	.....	.....	1	.....	8	.....	S;E	.....	.....	.....	.....	Pleasant....	
Alliance, Havre, France	29.98‡	761.5‡	.....	.....	70	21.1	95	W	.....	.....	1	.....	9	.....	W	.....	.....	.....	.....	Cloudy.....	
Ashuelot, Nagasaki, Japan	30.04	763.0	80	26.7	78	25.6	86	SSW	.....	.....	1	.....	2	.....	SSW	.....	.....	.....	.....	Fair.....	
Alaska, S. 12° 37′, W. 36° 11′	30.20	767.1	79	26.1	77	25.0	82	ENE	.....	.....	2	.....	3	.....	E	0	0	Smooth	.....	D. clouds.....	
Canonicus, New Orleans, La	30.02	762.5	57	13.9	79	26.1	86	SW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	29.62‡	752.3‡	.....	.....	72	22.2	58	WNW	18	8.0	.....	.....	2	.....	WNW	0.63	13.3	.....	.....	Hazy.....	
Constitution, Havre, France	29.95‡	760.7‡	.....	.....	72	22.2	80	WSW	.....	.....	2	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	30.15‡	765.8‡	.....	.....	75	23.9	55	NE	.....	.....	5	.....	2	.....	NE	.....	.....	Mod'ate	NE	Clear.	
Franklin, Norfolk, Va.	29.95	760.7	79	26.1	77	25.0	49	NNW	16	7.2	.....	.....	5	.....	NNW	0.43	10.9	.....	.....	Pleasant.....	
Gettysburg Off Messina, Sicily	30.07‡	763.8‡	.....	.....	79	26.1	100	NNE	.....	.....	2	.....	2	.....	Calm	0	0	None	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.14	765.5	.....	.....	69	20.6	61	NW	7.5	3.4	.....	.....	8	.....	NW	0.02	0.5	.....	.....	Cloudy	
Marion, Villefranche, France	30.13	765.3	82	27.8	82	27.8	63	E	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Buffalo, N. Y.	29.49	749.0	74	23.3	68	20.0	74	WNW	.....	.....	5	.....	10	.....	WNW	.....	.....	.....	.....	Hazy.....	
Monocacy, Yokohama, Japan	29.98‡	761.5‡	.....	.....	77	25.0	82	SSW	.....	.....	2-3	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.11†	764.8†	.....	.....	80	26.7	82	SW	12	5.4	.....	.....	2	.....	E	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.14†	765.5†	.....	.....	60	15.6	85	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.77	756.1	78	25.6	75	23.9	100	N	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
Pensacola, Mare Island, California	30.00	762.0	61	16.1	56	13.3	94	SSW	6	2.7	.....	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Plymouth, New York, N. Y.	29.60‡	751.8‡	.....	.....	71	21.7	66	WNW	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger, Hong-Kong, China	30.00*	762.0*	.....	.....	82	27.8	87	S	.....	.....	2	.....	6	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.99	761.7	79	26.1	78	25.6	95	Calm	.....	.....	0	.....	6	.....	Calm	.....	.....	.....	.....	Clear?.....	
Santee, Annapolis, Md.	29.77‡	756.1‡	.....	.....	72	22.2	67	NW	.....	.....	4	.....	2	.....	NW	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	29.67	753.6	73	22.8	73	22.8	63	NW	14	6.3	.....	.....	0	.....	.....	0.23	5.8	.....	.....	Clear.....	
Supply, Havre, France	30.07	763.8	74	23.3	73	22.8	76	W	.....	.....	0-1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	29.44‡	747.8‡	.....	.....	70	21.1	90	NW	.....	.....	2	.....	5	.....	N;W	.....	.....	.....	.....	Fair.....	
Trenton, Gibraltar	30.01‡	762.2‡	.....	.....	80	26.7	74	W	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico	29.74	755.4	81	27.2	82	27.8	75	ENE	.....	.....	1	.....	8	.....	Calm	0.20	5.1	.....	.....	Fair.....	
Vandalia, Beirut, Syria	29.77‡	756.1‡	.....	.....	85	29.4	76	NNE	.....	.....	2	.....	0	.....	.....	.....	.....	Long	W	Clear.	
Wabash, Boston, Mass.	29.42‡	747.3‡	.....	.....	70	21.1	75	W	10	4.5	.....	.....	5	.....	W	0.69	17.5	.....	.....	Fair.....	
Wyoming, N. 45° 13′, W. 46° 08′	30.11†	764.8†	.....	.....	52	11.1	93	W	.....	.....	4	.....	5	.....	W	.....	.....	Chop	W	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

S. S. Alaska																			
S. S. China, N. 25° 57', E. 121° 11'		29.94*	760.5*	84	28.9	100	ESE			2		2		SE	8	Light	SE	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 42° 30', W. 124° 40'		30.00*	762.5*				NW			3		4		NW		Mod'ate	NW	Clear	Capt. Seabury.
S. S. City of Peking, N. 37° 23', W. 130° 17'		30.23†	767.8†	58	14.4	100	N	27	12.1			9		N	0	Small	N	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 22° 55', W. 109° 0'		19.00†	769.4†	80	26.7	91	WSW			2		6		N	0	Very small	SW	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 22° 23', W. 155° 34'		30.40‡	772.1‡	78	25.6	95	ESE			5		2		SE	0	Mod'ate	ENE	Fine	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 49° 21', W. 31° 0'		29.77*	756.1*	61	16.1	??	SW			5				SW	Blank	Heavy	SW	Gloomy	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 41° 28', W. 59° 37'		29.59†	751.6†	70	21.1	95	SW			6		10			17hours	High	SW	Raining	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 45° 18' W. 164° 50'		29.97*	761.2*	56	13.3	75	Var.			3		ns		Var.	Blank	Swell	NE	Gloomy	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		29.89*	759.2*	71	21.7	95	NW			7		2		NW	0				Captain Sargent.
S. S. Ohio, N. 51° 50′, W. 7° 35′		30.05	763.3	73	22.8	81	ENE			1		0						Hazy	Captain Morrison.
S. S. Pennsylvania, N. 48° 02′, W. 38° 58′		29.86†	758.4†	55	12.8	??	W			6		8		W	0.75 in or 19.1 mm.	Heavy	WNW	Stormy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 45° 22′, W. 41° 22′		30.08*	764.0*				W	50	22.4			5		W		Very Heavy	WNW	D. clouds	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, (N. 65° 40′, W. 62°)?		29.86*	758.4*	36.0	2.2		Calm			0		10s			0			Dense fog	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 23, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES,

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.11	764.9	69.4	20.8	82	NE	.....	.....	5	.....	1	.....	.....	0	0	Very fair	Dr. Ollive.
Nemours	.....	.....	30.01	762.3	86.0	30.0	55	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Michel.
Algiers	.....	.....	29.94	760.4	90 7	32.6	41	W	.....	.....	5	.....	4	.....	.....	0	0	Cloudy	Tourillere.
La Calle	.....	.....	29.95	760.8	81 9	27.7	85	NNE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair	Foufrede.
Tunis	.....	.....	30.00	762.0	98.6	37.0	.....	SE	.....	.....	5	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	30.11	764.7	87.8	31.0	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.07	763 7	80.4	26.9	32	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.04	762.9	96.8	36.0	11	N	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30,07	763 8	93.7	34 3	51	S	.....	.....	0	.....	6	.....	.....	0	0	Cloudy	Brugnlaux.
Laghouat	.....	.....	30.11	764 9	100.4	38.0	19	W	.....	.....	4	.....	1	.....	.....	0	0	Very fair	Bertrand.
Biskra	.....	.....	30.05	763.2	100.0	37.8	.....	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES,

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.37	746.1	29,89	759.2	86.9	30.5	54	SW	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. Ivan Stoxu
Cracow	29.05	737.8	29.76	755.8	84.2	29.0	46	WSW	.....	.....	3	.....	0	.....	.....	0.059	1.49	.....	Prof. Dr. Karlinski.
Eperies	28.97	735.7	29.78	756 5	84.6	29.2	50	S	.....	.....	2	.....	5cs	.....	SE	0.157	4.00	.....	Julius Mikolik.
Gratz	28.69	728.6	29.87	758.6	80.8	27.1	60	SSW	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.50	723.8	29.83	757.7	82.0	27.8	36	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.50	724.0	29.76	756.0	81.0	27.2	56	WNW	.....	.....	2	.....	1	.....	.....	0.087	2.2	.....	Prof. C. Wagner
Lemberg	28.77	730.7	29.69	754.1	79.9	26.6	74	NW	.....	.....	3	.....	6	.....	.....	0.283	7.2	.....	Dr. T. Stanecki.
Pola	29.84	757.9	29.95	760.6	88.0	31.1	56	S	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.45	748.1	29.89	759.2	83.8	28.8	38	W	.....	.....	3	.....	3	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.87	758.8	29.98	761.4	85.5	29.7	57	Calm	.....	.....	0	.....	1	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.17	741.0	29.84	758 0	83.0	31.1	38	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.50	723.9	29.93	760.3	77.4	25.2	47	.....	.....	.....	0	.....	3	.....	.....	0.232	5.9	.....	Prof. M. Passau.
Brussels	29.70	754.4	29.89	759.2	80.4	26.9	45	WNW	.....	.....	3	7	.....	SE;S	.....	0.274	6.95	.....	Royal Observatory
Furnes	29.95	760.8	29.98	761.4	69.4	20 8	86	NW	.....	.....	4	.....	9	.....	.....	0.299	7.6	.....	M. E. de Cae.
Maeseyck	29.81	757.1	29.93	760.3	74.5	23.6	71	SW	.....	.....	4	.....	9	.....	.....	0 126	3.2	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

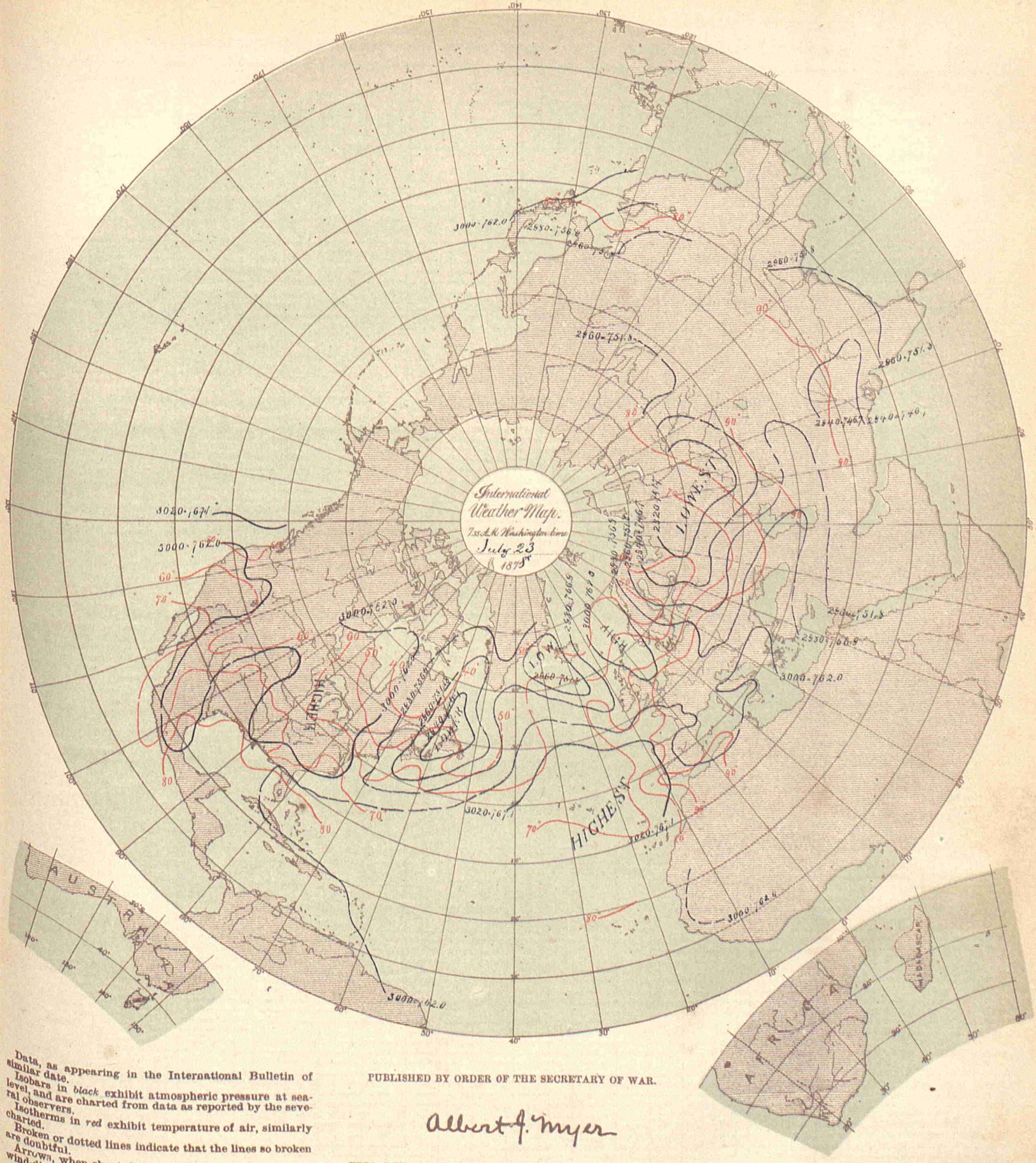
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.96	761.0	30.06	763.5	60.9	16.1	.....	SSE	18	8.0	.....	.....	9	.....	.....	0	0	Overcast.....	W. Boswell.
Ardrossan	29.92	760.0	29.94	760.5	73	22.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Hazy.....	George Carrick.
Armagh, Observatory	.....	.....	29.93	760.2	74.3	23.4	.....	SE	11	4.9	.....	.....	2	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.96	761.0	70.8	21.6	.....	SSE	9	4.0	.....	.....	6	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.84	757.9	78.0	25.6	.....	SSE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.63	752.6	30.03	762.7	69.1	20.6	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	83	28.3	.....	NE	.....	.....	2	.....	5?	.....	.....	.....	.....	Overcast?....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.97	761.2	65.0	18.3	.....	E	.....	.....	1	.....	10	.....	.....	0.70	17.78	Overcast.....	H. Todd. [H.C.
Cardington	.....	.....	30.00	762.0	65.0	18.3	.....	NE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	John McLaren.
Chatham, School M. E.	29.88	758.9	30.01	762.2	70.7	21.5	.....	S	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.53	721.6	29.97	761.2	62.0	16.7	.....	SE	.....	.....	2	.....	9	.....	.....	.....	.....	Rain & fog ..	Alexander Watt.
Donaghadee	29.93	760.2	29.96	761.0	65	18.3	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.91	759.7	29.94	760.5	69	20.6	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	⅝ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.96	761.0	74.8	23.8	.....	SE	4.6	2.1	.....	.....	7	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.71	754.6	29.93	760.2	69.0	20.6	.....	ESE	.....	.....	1	.....	6	.....	.....	.....	.....	Misty	The Staff.
Fort Napier, (Natal)	27.50	698.5	29.90	759.4	79.4	26.3	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	82	27.8	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.81	757.2	73	22.8	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Thunder.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.99	761.7	30.04	763.0	75.9	24.4	.....	W	.....	.....	6	.....	1	.....	.....	.....	.....	Blue sky....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.78	756.4	29.99	761.7	66.2	19.0	.....	NNE	.....	.....	4	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.99	761.7	30.00	762.0	63	17.2	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.80	756.9	29.97	761.2	67.9	19.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.74	755.4	29.96	761.0	65	18.3	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.00	762.0	75	23.9	.....	N	.....	.....	2	.....	0	.....	.....	0.23	5.8	Fine.....	M. P. Moyle.
Holyhead	29.88	758.9	29.94	760.5	73	22.8	.....	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.71	754.6	30.00	762.0	67.0	19.4	.....	WSW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	J. Fisher.
Kew, Observatory	.....	.....	29.97	761.2	68.2	20.1	.....	NE	10	4.5	.....	.....	kd	.....	.....	.....	.....	Hazy.....	The Staff.
Kingstown	29.91	759.7	29.94	760 5	67	19.4	.....	SSE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	.....	.....	29.96	761.0	65.0	18.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.92	760.0	30.00	762.0	90	32.2	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sgt. Hewitt. A. H. C.
Nairn	29.89	759.2	29.98	761.5	61	16.1	.....	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.05	763.3	85.0	29.4	.....	N	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.83	757.7	30.02	762.5	65.9	18.8	.....	NE	.....	.....	3	.....	10k	.....	ENE	0.001	0.03	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.48	748.8	29.99	761.7	60.4	15.8	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.97	761.2	69	20.6	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H.E. Bellamy.
Plymouth	29.86	758.4	29.93	760.2	65.8	18.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	John Merrifield.
Roche's Point	29.86	758.4	29.90	759.4	71	21.7	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Dull	W. Kennedy.
Saint Ann's Head	29.76	755.9	29.92	760.0	68	20.0	.....	ESE	.....	.....	2	.....	4	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.02	762.5	59.9	15.5	.....	ESE	34	15.2	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL.D.
Scutari, Cemetery, (Turkey	.....	.....	29.90	759.4	82.0	27.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.78	756.4	30.06	763.5	60.7	15.9	.....	NE	.....	.....	1	.....	10	.....	.....	Inap.	Inap.	Overcast.....	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.95	760.7	75.6	24.2	52	SE	.....	.....	3	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.60	751.8	30.00	762.0	70.0	21.1	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Hazy.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	29.87	758.7	29.90	759.4	67	19.4	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.77	756.1	29.98	761.5	72.4	22.4	.....	SE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Foggy	Rev. C. H. Griffith, F.M.S.
Thurso	.....	.....	30.01	762.2	63	17.2	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. cloud'...	John Trotter.
Truro, Royal Institution	.....	.....	29.97	761.2	75	23.9	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	29.88	758.9	66.8	19.3	.....	S	19	8.5	.....	.....	9	.....	.....	.....	.....	Misty.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.73	755.1	57.0	13.9	81	N	.....	.....	2	.....	9kn	.....	.....	0	0	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.89	759.2	30.08	764.2	71.6	22.0	64	SE	19.5	8.7	.....	7	2	NNW	SE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.72	754.9	29.81	757.2	68.0	14.4	65	NE	10	4.5	.....	.....	4	.....	.....	0	0	.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 40° 35', W. 70° 45'	.....	.....	29.63	757.7	60	15.6	.....	NNW	.....	.....	5	.....	3	.....	.....	5*	SSW	Blue sky.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 53° 50' W. 48° 40'	.....	.....	29.73	755.1	50	10.0	.....	E	.....	.....	3	.....	8	.....	.....	4	N	D. clouds....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hiberma	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 49° 10', W. 61° 5'	.....	.....	29.37	746.0	44	6.7	.....	E	.....	.....	3	.....	.....	.....	.....	5	N;E; SSE	Thunder-storm.	Capt. Alex. Simpson.
Barque Virginia, N. 50° 15', W. 12° 20'	.....	.....	29.90	759.4	64	17.8	.....	NW	.....	.....	5	.....	6	.....	.....	3	S	D. clouds....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.25	666.7	.....	.....	68.4	20.2	92	SE	.....	.....	1	1c	1k	.....	.....	Inap.	Inap.	.....	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.3	29.90	759.5	65.8	18.8	31	NNW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	
Fanöe	29.97	761.3	29.99	761.8	69.6	20.9	43	NW	.....	.....	6	.....	3	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.54	750.4	29.59	751.5	40.3	4.6	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Foggy	
Stykkisholm, (Iceland)	29.47	748.4	29.51	749.5	60.1	15.6	73	S	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.97	761.3	30.01	762.2	54.0	12.2	94	E	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	
Vestervig	29.89	756.9	29.97	761.2	68.4	20.2	42	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.48	748.9	30.04	762.9	75.2	24	61	SW	.....	.....	2	.....	5	.....	SW	0.159	3.8	Cloudy	Collignon, Director.
Amiens, Normal School	29.80	757.0	29.91	759.7	78.8	26.0	78	S	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.85	758.3	29.93	760.3	89.1	31.7	42	N	.....	.....	2	.....	0	.....	.....	0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.39	746.6	29.95	760.6	65.3	18.5	90	NE	.....	.....	1	.....	10n	.....	.....	0.063	1.6	Raining	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.67	753.7	29.94	760.5	80.4	26.9	62	W	.....	.....	3	.....	8	.....	.....	0.018	0.45	Very cloudy	Normal School.
Besançon	29.13	740.0	29.98	761.5	79.2	26.2	56	S	.....	.....	4	.....	2	.....	NW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.25	742.9	30.19	766.9	84.7	29.3	63	S	.....	.....	6	.....	0	.....	.....	0	0	Clear	Normal School.
Bourges, Normal School	29.41	747.1	30.02	762.5	77.0	25	63	NNW	.....	.....	2	.....	k	.....	NNW	0.126	3.2	.....	A. Wagner, Director.
Brest, Naval Observatory	29.70	754.3	29.94	760.5	70.2	21.2	80	WSW	.....	.....	2	.....	10	.....	WSW	0.148	3.75	Raining	The Staff.
Carcassonne, Normal School	29.64	752.9	30.05	763.2	71.6	22	74	N	.....	.....	2	.....	2	.....	NW	0	0	Slightly cl'dy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.37	746.1	29.91	759.7	79.3	26.3	82	SE	.....	.....	2	.....	7	.....	NW	0.094	2.4	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.69	754.0	29.99	761.7	77.9	25.5	59	S	.....	.....	2	.....	8ck	.....	S	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.65	727.8	29.94	760.4	81.5	27.5	46	W	.....	.....	2	.....	5	.....	SW	1.106	28.1	Cloudy	Alluard, Director.
Commercy, Normal School	29.11	739.3	29.98	761.6	75.6	24.2	79	SW	.....	.....	4	.....	5	.....	NE	0.606	15.4	Light rain	Dr. Coulet, Director.
Commune de Gréasque*	28.97	735.9	30.00	761.9	90.5	32.5	33	W	.....	.....	2	.....	2	.....	SW	0	0	¾ Covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.82	757.4	30.03	762.7	77.4	25.2	61	SW	.....	.....	4	.....	8	.....	SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.68	753.8	29.97	761.3	76.1	24.5	60	W	.....	.....	2	.....	5	.....	W	0.16	4.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.09	738.8	29.95	760.8	79.7	26.5	57	NNW	.....	.....	2	.....	2	.....	SE	0.008	0.20	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.90	759.4	30.00	761.9	76.6	24.8	65	WSW	.....	.....	3	.....	8	.....	W	0	0	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.28	743.8	29.94	760.4	79.2	26.2	70	W	.....	.....	4	.....	5	.....	W	0	0	Cloudy	M. Galzin, Director.
Mirecourt	28.89	733.9	29.89	759.1	75.7	24.3	62	SW	.....	.....	2	.....	5	.....	NE	0.51	13.	Cloudy	Normal School
Nismes, Normal School	29.75	755.6	29.94	760.4	96.8	36	41	W	.....	.....	1	.....	2	.....	N	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.59	751.5	29.95	760.7	83.3	28.5	69	S	.....	.....	2	.....	5	.....	S	0.059	1.5	Cloudy	Bernard, Director.
Paris, Observatory	29.72	754.9	29.95	760.7	74.7	23.7	67	W	.....	.....	1	.....	8	.....	.....	0.030	0.77	Very cloudy	National Observatory.
Privas	29.04	737.5	30.04	763.1	84.2	29	39	S	.....	.....	2	.....	1	.....	S	0	0	Clear	Normal School
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.01	762.0	30.03	762.8	73.4	23.0	59	SW	.....	.....	3	.....	8	.....	SW	0.16	4.	¾ Covered	Lt. Decante, Director.
Rouen, Normal School	29.88	758.9	29.96	761.0	74.8	23.8	51	W	.....	.....	1	.....	5	.....	S	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	28.97	735.9	30.02	762.6	68.0	20	72	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.21	741.9	29.88	759.0	84.2	29	74	NE	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.93	760.2	77.0	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.04	128.	.....	L'Abbé Marchési.
Lyons	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.90	759.4	86.	30.1	46	S	.....	.....	2–3	.....	1	.....	.....	0	0	.....	The Staff.
Mont-Louis	24.96	634.0	30.28	769.0	66.2	19.0	62	ENE	20.5	9.17	.....	.....	4	.....	SW	0	0	.....	M. Cave.
Nice	.....	.....	29.97	761.2	80.6	27.0	75	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.68	753.8	29.95	760.8	75.0	23.9	58	NW	.....	.....	2	.....	8	.....	SW	0.031	0.8	.....	Marié Davy, Director
Perpignan	.....	.....	30.02	762.4	84.6	29.2	54	NE	11.2	5.00	.....	.....	2	.....	N	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.3	.....	.....	52.3	11.3	.....	SW	.....	.....	1	.....	10	.....	.....	0.142	3.6	Stormy	Gen't de Nansouty
Saint Maur, (near Paris)	29.79	756.7	29.95	760.9	75.2	24.0	66	NW	.....	.....	1	.....	10	.....	.....	0	0	.....	E. Renou.
Toulouse, Observatory	29.39	746.5	30.11	764.9	77.9	25.5	69	NW	.....	.....	3	.....	8	.....	.....	0.033	0.85	.....	The Staff.
Tours	29.77	756.1	29.97	761.1	82.0	27.8	49	W	.....	.....	2	.....	7	.....	W	0.024	0.6	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	29.97	761.1	78.4	25.8	47	W	.....	.....	1	.....	9	.....	.....	0.060	1.53	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.67	753.7	29.70	754.3	82.0	27.8	94	SE	5.1	2.3	.....	2ck	.....	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.08	738.5	29.92	759.9	82.8	28.2	69	WSW			2		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.71	754.5	29.87	758.7	81.0	27.2	37	NE			1		0			0	0		Prof. Arndt.
Breslau	29.34	745.2	29.87	758.6	85.1	29.5	37	NW			2		1			0	0		Royal University Obs'y
Carlsruhe	29.48	748.9	29.90	759.4	80.4	26.9	66	SE			1		5			0.433	11.0		Albert Senz.
Cassel	29.24	742.8	29.85	758.1	85.3	29.6	48	SE			1		7	S		0	0		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	82.9	28.3	66	NE			3		8kn					Thunder-storm	Director Lose.
Emden	29.83	757.7	29.87	758.7	72.6	22.5	60	NE			5		0			0.008	0.2		Prof. Prestel.
Frankfort on the Main	29.59	751.5	29.93	760.2	82.8	28.2		SSW			2		3			0	0		Physical Society.
Friedrichshafen	28.54	724.8	29.90	759.4	77.7	25.4	59	S					2	SW		0.921	23.4		M. Wilhelm.
Hamburg	29.90	759.5	29.97	761.2	75.2	24.0	53	N			4		0			0	0	Clear.	Captain F. Hegemann.
Kiel	29.92	760.0	29.94	760.4	69.6	20.9	60	NNE			1		2			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.67	753.6	29.75	755.6	67.1	19.5	67	NW			7		2			0	0		Prof. E Luther.
Köslin			29.91	759.7	65.8	18.8		N			2		1			0	0		H. Müller.
Leipsic, Observatory	29.48	748.7	29.87	758.7	85.3	29.6	38	NE			1		2			0	0	*Dust-haze*	Prof. Bruhns.
Memel, Naval School	29.68	753.8	29.72	755.0	61.9	16.6	55	NW			5–6		3ks					Squally	Reinbrecht and Skalweit.
Neufahrwasser	29.80	757.0	29.82	757.4	66.1	18.4	75	N			5		3	WNW		0	0		A. Lothes.
Posen	29.84	757.9	29.88	758.9	81.0	27.2	33	WSW			8		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.41	746.9	29.93	760.2	82.8	28.2	60	SSE			1		5	SW		0.554	14.08	Thunder-storm	Astronomical Observatory.
Stuttgart	29.03	737.3	29.91	759.8	80.1	26.7	51	NE			1		4	N		0.150	3.8		Prof. Schoder.
Treves, (Trier)	29.26	743.3	29.78	756.5	84.2	29.0	45	SW			4		2			0.009	0.23		Prof. Flesch.
Weissenburg, (Bavaria)	28.46	722.8	29.87	758.8	81.3	27.4	44	W	2	1			4ck		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.93	760.2	29.97	761.2	67.1	19.5	76	W			2		2			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.9	29.94	760.4	86.4	30.2		NE			4.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.4	29.47	748.6	86.0	30.0	73	WSW	33?	14.8?			2			0	0		D. clouds
Deesa	29.01	736.8	29.48	748.8	81.0	27.2	35	NNE					10		N	0.28	7.1		Overcast
Bombay	29.56	750.9	29.60	751.9	77.4	25.2	96	W	21	9.4			10		SW	4.32	109.7		Overcast
Poona	27.62	701.4	29.62	752.3	73.6	23.1	84	WSW					10		WSW	0.48	12.2		Drizzling
Lahore	28.67	728.3	29.38	746.3	98.2	36.8	50	E	2.5	1.1			8			0	0		Misty
Belgaum	27.15	689.6	29.70	754.3	70.8	21.6	94	WNW	11	4.9			10		WNW	0.42	10.7		Showery
Bangalore																			
Roorkee	28.57	725.6	29.43	747.6	90.8	32.7	62	SE	5.2	2.3			2			0	0		
Agra	28.93	734.8	29.47	748.5	98.6	37.0	47	E	3	1.3					E	0	0		
Trichinopoly																			
Nagpur	28.42	721.8	29.44	747.7	83.9	28.8	83	W	3.1	1.4			9		E	0.11	2.8		D. clouds
Madras																			
Lucknow	29.11	739.4	29.47	748.5	92.2	33.4	66	SE	4.8	2.2			7		NE	0.09	2.3		D. clouds
Allahabad	29.14	740.1	29.43	747.6	94.1	34.5	65	E	5.2	2.3			2		E	0	0		D. clouds
Patna	29.33	744.9	29.50	749.4	87.6	30.9	72	E	0.9	0.4			5	E	E	0	0		D. clouds
Hazaribagh	27.51	698.8	29.51	749.4	76.8	24.9	90	ENE	11.5	5.1			10	W	E	0.26	6.6	Thunder-storm	
Cuttack	29.33	745.0	29.41	747.0	83.0	28.3	83	ENE	4.8	2.2			5			0.66	16.8		D. clouds
Calcutta (Alipore)	29.49	749.0	29.51	749.5	83.7	28.7	85	SE	6	2.7			10	SE	SE	0	0		Overcast
Goalpara	29.19	741.4	29.57	751.1	83.0	28.3	78	SSE	3.4	1.5			6	E		0	0		D. clouds
Chittagong	29.54	750.4	29.64	752.7	84.9	29.4	72	ESE	4.8	2.2			10			0	0		Gloomy
Sibsagar	29.25	743.0	29.28*	743.7*	86.2	30.1	77	NW	1.0	0.4			4			0	0		Blue sky
Rangoon																			
Jubbulpore	28.22	716.8	29.57	751.1	80	26.7	85	NW	1.7	0.8			10			0.31	7.9		Overcast

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m. * Probably 29.58 inches and 751.3 mm.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimetrs.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.1	29.93	760.1	83.8	28.8	62	W	1.8	0.8	.....	.....	7	.....	.....	0.020	0.5	.....	Prof. Giovanni Clodig.
Padua	29.83	757.6	29.93	760.3	87.1	30.6	52	SSW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.73	755.1	29.91	759.8	90.9	32.7	40	W	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.71	729.1	29.96	760.9	89.6	32.0	48	S	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	29.06	738.2	29.93	760.1	86.0	30.0	48	N	2.5	1.1	.....	.....	4	SE	.....	0.228	5.8	.....	Prof. P. F. Denza.
Mondovi	28.09	713.5	29.92	759.9	81.7	27.6	59	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.75	755.7	29.97	761.1	77.2	25.1	78	E	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.83	757.6	29.99	761.8	81.9	27.7	53	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.62	752.3	29.92	759.9	88.7	31.5	38	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.73	755.1	29.97	761.3	91.9	33.3	27	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.92	760.0	30.00	762.0	84.4	29.1	55	S	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.91	759.6	29.95	760.8	84.6	29.2	58	E	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.50	723.9	29.99	761.7	86.5	31.4	28	SW	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.87	758 8	30.04	763.1	91.0	33.1	27	W	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.88	759.0	30.08	763.9	84.7	29.3	43	SSW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	85.3	29.6	30	NNW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.78	756.3	29.96	761.0	88.5	31.4	43	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.15	740.3	29.98	761.6	93.4	34.1	57	SW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.84	757.9	30.08	764.1	81.7	27.6	56	E	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.97	761.1	30.04	763.0	82.2	27.9	55	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.52	749.7	30.07	763.8	86.5	30.3	51	SSW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.71	754.6	29.90	759.4	76.5	24.7	87	WSW	0.8	0.4	.....	.....	0	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) Observatory	29.90	759.4	29.97	761.2	74.8	23.8	88	S	13.1	5.9	.....	.....	1s	.....	.....	0	0	Clear	
Tokei (Yeddo) University	29.86	758.4	29.96	760.9	75.5	24.2	93	S	18	8.0	.....	1cs	.....	.....	.....	0.01	0.25	Fair	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascallentes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	61.52	16.2	78	N	5.1	2.3	.....	0	9n	.....	E	0.12	3.0	Cloudy	L. Castillo, A. E.
Guadalajara	25.11	637.7	30.05	763.2	62.6	17.0	89	W	1.8	0.8	.....	0	10	.....	W	0.01	0.2	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	65.1	18.4	70	SSE	1.8	0.8	.....	6nk	0	E	.....	0	0	½ cloudy	Prof. M. Leal.
Mexico	25.15	588.0	30.16	766.0	56.5	13.6	88	Calm	0	0	.....	0	9n	.....	.....	0.44	11.0	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.8	17.1	81	WSW	0.9	0.4	.....	2c	0	.....	.....	0	0	Clear	M. Y. de Leon, M. E
Puebla	23.39	594.1	30.05	763.3	55.2	12.9	86	NE	1.1	0.5	.....	2c	5cs	.....	.....	0.09	2.2	Cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.92	760.0	29.93	760.3	77.0	25.0	91	S	0.9	0.4	.....	10ck	0	E	.....	0.99	25.0	Dark	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.2	30.10	766.7	63.0	17.2	39	ESE	0.9	0.4	.....	0	10	.....	ESE	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	30.01	762.3	30.04	763.0	78.8	26.0	84	NW	10.2	4.5	.....	0	10n	.....	.....	0.79	20.0	Rainy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	58.5	14.7	67	NNE	1.8	0.8	.....	2	6	.....	.....	0.24	6.0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.33	592.7	30.08	764.0	52.3	11.3	77	NE	2.2	1.0	.....	1	0	.....	.....	0.10	2.5	Clear	Prof. P. Spina, [M.M.D.D.
Morelia	21.15	613.5	.....	.....	64.4	18.0	66	ESE	.....	.....	.....	0	10k	.....	S	0 49	12.5	Covered	M. Tena, F.L. Paramo,
Durango	24.26	616.1	30.04	763.1	69.0	20 6	90	Calm	0	0	.....	9ck	0	E	.....	0,10	2.4	Very cloudy	M. V. de Leon, C. E.
Colima	28.41	721.5	30.02	762.5	81.1	27.3	84	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Very cloudy	R. Banda, O. E.
San Juan E. Mirhapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The elevation of Aguascallentes, is 1,881 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.5 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m , local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	761.6	29.95	760.6	75 9	24 4	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.91	759.7	29.97	761.1	71 6	22 0	.....	NE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.96	761.0	29.96	761 0	66.4	19.1	.....	NNE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.92	760.0	29.92	760 0	70 9	26 6	72	NNE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.88	758.9	29.93	760.1	73.0	26 1	63	NNE	.....	.....	2	.....	2	.....	.....	0	0	Light cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.00	761.9	30.05	763.3	60.8	16.0	45	NNW	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.96	760.9	30.00	761.9	52.2	11.2	67	NNW	27	12	.....	.....	4	.....	.....	0	0	.....	
Christiania	29.79	756.6	29.93	760.2	69.1	20.6	35	N	13	6	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.77	756.1	29.81	757.2	48.6	9.2	95	NE	9	4	.....	.....	10	.....	.....	0.067	1.7	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.19	766.8	30.38	771.6	73.2	22.9	88	ENE	6.3	2.8	.....	.....	6	.....	.....	0.630	16.0	.....	Dr. J. A. Sampaio.
Campo Major	29.13	739.9	30.10	764.6	85.1	29.5	27	WNW	11.2	5.0	.....	.....	3	NW	... .	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.26	768.5	30.34	770.7	74.3	23.5	65	SW	8.7	3.9	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.87	758.7	30.22	767.6	73.0	22.8	60	N	18.6	8.3	.....	.....	8	NNW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.34	770.6	30.41	772.3	78.8	26.0	78	SW	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 8° 49′, E. 13° 08′	.....	.....	29.97	761.3	69.8	21.0	.....	W	.....	.....	1	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.00	761.9	82.4	28.0	... .	NNE	....	.....	5	.....	0	.....	.....	2	N	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	30.15	765.8	81.5	27.5	.....	NE	.....	.....	2	.....	9	.....	NE	1	NE	Drizzling	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.2	71.1	21.7	.....	NNW	.....	.....	1	.....	10	.....	.....	1	.....	Overcast	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.34	745.3	29.74	755.4	79.3	26.3	42	NW	10	7	.....	.....	9ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.17	741.0	29.58	751.4	60.1	15.6	80	SW	2	1	.....	.....	8	.....	.....	.....	.....	Heavy clouds ...	Astronomical Obs.
Dorpat	29.17	740.9	29.41	747.0	49.1	9.5	88	WNW	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.26	743.1	29.27	743.5	56.1	13.4	61	WNW	18	8	.....	.....	5k	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.00	736.7	29.60	751.7	80.8	27.1	47	WNW	18	8	.....	.....	8c;ck	.....	.....	.....	.....	Solar corona.	Physical Cabinet.
Nikolaiev	29.80	756.9	29.87	758.7	84.9	29.4	41	SW	13	6	.....	.....	5k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.91	759.8	29.93	760.3	81.0	27.2	59	SW	9	4	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.81	731.7	29.34	745.2	57.9	14.4	81	S	9	4	.....	.....	8ks	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.51	749.5	29.71	754.5	79.7	26.5	27	WSW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.24	742.8	29.26	743.3	64.6	18.1	71	SW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.48	723.3	29.81	757.2	84.4	29.1	43	E	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.85	758.2	29.77	756.1	78.3	25.7	28	WNW	11	5	.....	.....	7k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.03	737.4	29.29	743.9	67.8	19.9	73	WSW	7	3	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.17	715.4	29.06	738.0	66.9	19.4	71	NNW	4	2	.....	.....	9ks;n	.....	.....	.....	.....	.....	Meteorological Obs
Nukuss	29.35	745.4	29.57	751.0	82.6	28.1	48	WNW	11	5	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.09	713.4	29.64	752.8	94.3	34.6	35	NW	7	3	.....	.....	6	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.10	739.1	29.58	751.3	85.1	29.5	36	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.37	745.9	29.64	752.8	79.7	26.5	70	E	13	6	.....	.....	4	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.34	745.2	29.48	748.8	75.0	23.9	88	SE	4	2	.....	.....	1cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.1	29.95	760.6	81.1	27.3	72	E	1.5	0.67	.....	5k	2ks	S	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.08	763.9	30.13	765.3	75.2	24.0	74	NW	2.2	1.00	.....	2	6	W	.....	0.056	1.4	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.22	691.4	.....	.....	70.3	21.3	54	N	6.4	2.86	.....	.....	9	.....	.....	Inap.	Inap.	Drizzling	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.5	29.94	760.5	89.4	31.9	31	N	5.2	2.33	.....	0	6	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.83	757.7	29.97	761.3	91.8	33.2	61	SE	4.6	2.08	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.30	744.2	30.18	766.5	67.8	19.9	75	SW	6.7	3.00	.....	.....	10	.....	.....	0	0	Foggy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.98	761.4	30.04	763.0	83.1	28.4	83	Calm	0	0	.....	0	0	.....	.....	0.764	19.4	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.05	763.3	30.15	765.7	76.8	24.9	62	WSW	12.7	5.7	.....	0	5	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.89	759.3	29.98	761.6	85.3	29.6	83	SE	0	0	.....	5k	2kn	SE	SE	0.925	23.50	Cloudy	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru'm'tal error and temperature. Inches.	Barometer. Corrected for instru'm'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.52	749.7	29.56	750.7	57.2	14 0	.....	N	.....	.....	6	.....	4	.....	.....	0.118	3.0	.....	
Umea	29.54	750.3	29.59	751.6	58.6	14.8	56	NW	.....	.....	8	.....	6	.....	.....	0.016	0.4	.....	
Hernosand	29.63	752.5	29.68	753.8	55.6	13.2	75	N	.....	.....	6	.....	9	.....	.....	0	0	.....	
Stockholm	29.58	751.2	29.75	755.7	61.2	16.2	95	NE	.....	.....	6	.....	7	.....	.....	0.039	1.0	Raining	
Wisby	29.71	754.7	29.77	756.2	60.8	16.0	80	NW	.....	.....	8	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.63	752.5	29.70	754.4	63,9	17.7	46	NNW	17.4	7.8	.....	.....	10	.....	NW	0.104	2.63	Raining	Dr. Hildebrandsson.

Note.—The origin .ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725 8	29.02	759.9	84.0	28.9	43	SW	.....	.....	3	.....	3	.....	.....	0	0	Clear	The Observatory.
Zurich	28.37	720.7	29.03	760.1	80.8	27.1	57	NW	.....	.....	2	.....	8	.....	.....	0.322	8.2	Thunder-storm.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.9 mm.; Thermometer, +6.2 cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.99	761.8	71.6	22.0	45	NNE	16	7.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.09	764.2	76.6	24.7	.....	W	.....	1	.....	0	.....	.....	.....	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.55	750.6	29.64	752.9	89.2	31.8	58	NW	.....	1	.....	0	.....	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.57	751.1	29.61	752.1	54.1	12.3	85	N	10	4.5	.....	3k	7n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.66	753.4	29.65	760.7	69	20.6	.....	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.54	750.3	29.60	751.8	52	11.1	86	N	12	5.4	.....	.....	10s	.....	.....	0.40	10.2	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.40	746.7	29.44	747.8	55	12.8	91	NE	16	7.2	.....	.....	10n	.....	Calm	0.460	11.68	Sprinkling	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.91	759.7	66.0	18.9	78	SW	.....	.....	1	0	3s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.49	749.0	29.65	753.1	54.9	12.7	51	NW	.....	.....	2	.....	.....	.....	.....	0.93	23.6	Gloomy	H. A. Johnson.
Esquimault, B. C	29.94	760.5	29.98	761.5	52.3	11.3	100	Calm	.....	.....	.....	3cs	0	.....	.....	0	0	Clear	W. H. Revis.
*Father Point, Quebec	29.71	754.6	29.73	755.1	49	9.4	85	SW	14	6.3	.....	Haze	2s	Calm	Calm	0.27	6.9	Clearing	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.67	753.6	54.8	12.7	80	NW	8	3.6	.....	.....	10s	.....	.....	0.045	1.14	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.29	744.0	30.08	764.0	66	18.9	94	SE	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton, Ontario	29.03	737.3	30.11	764.8	60	15.6	94	N	.....	.....	1	0	0	.....	.....	.....	.....	.....	H. J. Strang, M. A.
*Halifax, N. S	29.28	743.7	29.41	747.0	58	14.4	95	W	11	4.9	.....	.....	10n	.....	.....	0	0	Clear	James Grant.
Hamilton, Ontario	29.75	755.6	30.11	764.8	64.0	17.8	73	N	.....	.....	2	2c	0	N	NW	0.020	0.51	Light rain	F. Allison, M. A.
Heart's Content, N. F	29.42	747.3	29.44	747.8	58	14.4	94	SW	.....	.....	3	.....	10	.....	.....	0	0	Clear	Geo. Dickson, M. A.
*Kingston, Ontario	29.55	750.6	29.87	758.7	67	19.4	59	N	7	3.1	.....	0	0	.....	.....	1.40	35.6	Foggy	E. Weedon.
Little Glace Bay, N. S	29.32	744.7	29.36	745.7	61.0	16.1	.....	SW	8	3.6	.....	.....	10n	.....	.....	0	0	Clear	S. Woods, M. A.
*Montreal, Quebec	29.71	754.6	29.90	759.4	65	18.3	63	NW	6	2.7	.....	2cs	0	.....	.....	0.12	3.0	Showery	C. H. Rigby.
*Parry Sound, Ontario	29.42	747.3	30.09	764.3	66	18.9	81	N	7	3.1	.....	0	0	.....	.....	0.11	2.8	Clear	C. H. McLeod, C. E.
Peterboro, Ontario	29.24	742.7	29.97	761.2	64.7	18.2	60	W	.....	.....	2	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario	29.41	747.0	30.09	764.3	61	16.1	83	NW	5	2.2	.....	Haze	Haze	.....	.....	0	0	Bright	J. F. Jeffers, B. A.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Hazy	H. Morgan.
Port Stanley, Ontario	29.47	748.5	30.10	764.6	62	16.7	83	NW	5	2.2	.....	Haze	0	.....	.....	.....	.....	.....	Peter Grant.
*Quebec, Quebec	29.51	749.5	29.82	757.4	54	12.2	87	NW	.....	.....	1	2k	2ks	NW	NW	0	0	Clear	M. Payne.
*Rockliffe, Ontario	29.59	751.6	30.03	762.7	64	17.8	58	NW	8	3.6	.....	0	0	.....	.....	0.13	3.3	Clearing	Capt. Ashe, R. N
St. Andrews, N. B	29.60	751.8	29.65	753 1	55	12.8	79	N	5	2.2	.....	.....	5n	.....	.....	0	0	Clear	W. H. McIntyre.
St. John, N. B	29.45	748.0	29.62	752.3	53	11.7	86	N	16	7.2	.....	.....	10n	.....	.....	0.10	2.5	Cloudy	Dr. Gove.
*Saugeen, Ontario	29.42	747.3	30.11	764.8	65	18.3	76	N	4	1.8	.....	5cs	0	.....	.....	0.01	0.3	Cloudy	G. Murdock, C. E.
Stayner, Ontario	29.29	744.0	30.05	763.3	66	18.9	75	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	R. J. Cole.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Toronto, Ontario	29.36	745.5	29.38	746.2	62	16.7	94	SW	6	2.7	.....	.....	10n	.....	SW	0.33	8.4	Cloudy	C. J. MacGregor, M. A.
Windsor, N. S	29.71	754.6	30.09	764.3	63	17.2	71	NW	2	0.9	.....	Haze	0	.....	.....	0	0	Clear	T. C. Hill.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Magnetic Observatory.
Sub-Series.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
St. Johns, Newfoundland	.....	.....	.....	.....	67.0	19.4	89	SW	.....	.....	.....	2k	2s	.....	.....	0.28	7.1	Fair	J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft. or 360.3 m.

UNITED STATES SERIES.

By authority of the SECRETARY OF WAR.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.66	753.4	29.87	758.7	66	18.9	64	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Alpena, Michigan	29.53	750.0	30.17	766.3	61	16.1	66	NW	5	2.2	.....	.....	Fog	.....	.....	0	0	Foggy	
Atlantic City, New Jersey	29.93	760.2	29.95	760.7	69	20.6	60	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.85	758.4	30.04	763 0	80	26.7	44	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.98	761.5	30.02	762.5	71	21.7	49	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Barnegat, New Jersey	29.91	759.7	29.93	760.2	69	20.6	61	NW	15	6.7	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.26	717.8	30.11	764.8	64	17.8	94	SE	6	2.7	.....	.....	10n	.....	SE	0.02	0.5	Light rain	
BoiseCity, Idaho	27.09	688.1	29.97	761.2	71	21.7	44	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Boston, Massachusetts	29.66	753.4	29.81	757.2	64	17.8	58	NW	20	8.9	.....	8ck;k	0	N;NW	.....	0	0	Fair	
Brackettville, Texas	28.81	731.8	29.79	756.7	78	25.6	78	E	5	2.2	.....	Haze	0	Calm	.....	0	0	Hazy	
Breckenridge, Minnesota	29.07	738.4	30.04	763.0	63	17.2	89	SE	12	5.4	.....	5c	0	W	.....	0	0	Fair	
Brownsville, Texas	29.90	759.4	29.97	761.2	83	28.3	79	Calm	0	0	.....	8c	0	SE	.....	0	0	Fair	
Buffalo, New York	29.36	745.7	30.04	763.0	66	18.3	73	NW	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Burkes, Arizona	.....	.....	.....	.....	75	23.9	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.65	753.1	29.99	759.4	64	17.8	82	N	12	5.4	.....	0	0	.....	.....	0.23	5.8	Clear	
Cairo, Illinois	29.75	755.6	30.13	765.3	71	21.7	62	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	71	21.7	71	Calm	.....	.....	0	0	2s	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	73	22.8	50	N	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.74	679.2	30.23	767.8	72	22.2	71	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.40	696.0	29.97	761 2	52	11.1	86	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.02	762.5	77	25.0	61	NE	13	5.8	.....	2k	Haze	SW	.....	0	0	Fair	
Cape Henry, Virginia	30.05	763.3	30.07	763.8	72	22.2	85	NE	17	7.6	.....	5cs	0	NW	.....	0	0	Fair	
Cape Lookout, N. Carolina	29.99	761.7	30.00	762 0	79	26.1	78	NE	15	6.7	.....	8cs	0	E	.....	0.08	2.0	Cloudy	
Cape May, New Jersey	29.98	761.5	30.00	762.0	71	21.7	66	NW	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.19	741.4	29.86	758.4	79	26.1	78	E	4	1.8	.....	5ck	0	E	.....	0	0	Fair	
Charleston, South Carolina	29.95	760.7	30.01	762.2	80	26.7	82	NE	8	3.6	.....	1cs	2s	Calm	E	1.47	37.3	Fair	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	63	17.2	83	Calm	0	0	.....	0	8ks	.....	NE	0.19	4.8	Cloudy	
Chicago, Illinois	29.49	748.3	30.13	765.3	71	21.7	58	NE	5	2.2	.....	5c	Haze	NW	.....	0	0	Fair	
Cincinnati Ohio	29.46	748.3	30.10	764.5	69	20.6	65	SE	2	0.9	.....	8k	0	NW	.....	0	0	Fair	
Cleveland, Ohio	29.39	746.5	30.10	764.5	65	18.3	68	E	4	1.8	.....	5k	Fog	NE	Calm	0	0	Fair	
Columbus, Ohio	29.32	744.7	30.12	765.0	61	16.1	77	Calm	.....	.....	0	2c	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	28.06	712.7	29.65	753.1	77	25.0	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.53	750.0	29.98	761.5	77	25.0	91	E	4	1.8	.....	2cs	5s	Calm	E	0	0	Fair	
Davenport, Iowa	29.55	750.6	30.17	766.3	69	20.6	61	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Denison, Texas	29.22	742.2	29.98	761.5	79	26.1	82	E	2	0.9	.....	5cs	0	Calm	.....	0.07	1.8	Fair	
Denver, Colorado	24.88	631.9	30.10	764.5	64	17.8	83	S	4	1.8	.....	8c	0	Calm	.....	0.50	12.7	Fair	
Detroit, Michigan	29.46	748.3	30.11	764.8	63	17.2	62	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.43	696.7	29.61	752.1	72	22.2	90	SW	8	3.6	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Dubuque, Iowa	29.49	749.0	30.17	766.3	69	20.6	65	Calm	0	0	.....	2cs	8s	E	Calm	0	0	Cloudy	
Duluth, Minnesota	29.46	748.3	30.12	765.0	69	20.6	70	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.14	740.1	29.84	757.9	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.57	751.1	29.64	752.8	55	12.8	81	N	19	8.5	.....	.....	10s	.....	N	0.31	7.9	Cloudy	
El Paso, Texas	.....	.....	.....	.....	76	24.4	54	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Erie, Pennsylvania	29.37	746.0	30.06	763.5	68	20.0	79	SW	1	0.4	.....	0	Sm'e	.....	.....	0	0	Smoky	
Escanaba, Michigan	29.53	750.0	30.18	766.6	59	15.0	70	Calm	0	0	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky	
Florence, Arizona	.....	.....	.....	.....	80	26.7	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.24	641.1	30.20	767.1	72	22.2	71	NW	3	1.3	.....	5k	0	NE	.....	0.12	3.0	Fair	
Fort Gibson, Indian Ter	29.50	749.3	30.01	762.2	77	25.0	65	SE	8	3.6	.....	5ck	0	E	.....	0	0	Fair	
Fort Griffin, Texas	28.71	729.2	29.93	760.2	76	24 4	82	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.79	731.3	29.84	757.9	79	26.1	78	SE	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.94	760.5	29.99	761.7	80	26.7	82	W	4	1.8	.....	5k	0	Calm	.....	0.76	19.3	Fair	
Grand Haven, Michigan	29.51	749.5	30.15	765.8	66	18.9	59	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.38	745.7	30.12	765.0	64	17.8	73	N	3	1.3	.....	2ck	2s	Calm	Calm	0	0	Fair	
Indianola, Texas	29.96	761.0	29.99	761.7	77	25.0	91	W	14	6 3	.....	.....	10ks	.....	SW	1.16	29.5	Threatening	
Jacksboro, Texas	29.84	758.4	29.93	760.2	76	24.4	86	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.97	761.2	29.99	761.7	87	30.6	72	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.49	749.0	30.09	764.3	71	21.7	58	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.01	762.2	30.04	763.0	86	30.0	68	Calm	0	0	.....	1c	1ks	Calm	Calm	0	0	Clear	
Kittyhawk, North Carolina	30.01	762.2	30.03	762.7	73	22.8	72	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	29.09	738.9	30.06	763.5	69	20.6	61	NE	5	2.2	.....	1ck	0	SW	.....	0	0	Clear	
La Crosse, Wisconsin	29.42	747.3	30.13	765.3	69	20.6	80	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.10	662.9	30.25	768.3	69	20.6	85	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Laredo, Texas	29.50	749.3	29.82	757.4	82	27.8	79	SE	4	1.8	.....	10ck	0	Calm	.....	0	0	Cloudy	
Lead City, Dakota	24.94	633.5	.....	.....	56	13.3	81	S	2	0.9	.....	5cs	0	Calm	.....	0.17	4.3	Fair	
Leavenworth, Kansas	29.21	741.9	30.02	762.5	72	22.2	54	SE	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Los Angeles, California	29.60	751.8	29.93	760.2	62	16.7	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.55	750.6	30.10	764.5	70	21.1	53	NE	4	1.8	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Lynchburg, Virginia	29.38	746.2	30.03	762.7	76	24.4	40	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.44	747.8	30.12	765.0	65	18.3	73	W	12	5 4	.....	5c	0	SW	.....	0	0	Fair	
Mason, Texas	28.34	719.8	30.01	762.2	78	25.6	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.76	755.9	30.07	763.8	71	21.7	71	NE	3	1.3	.....	2c	Sm'e	SW	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.45	748 0	30.16	766.1	64	17.8	68	NW	2	0.9	.....	5c	Haze	NW	.....	0	0	Fair	
Mobile, Alabama	29.96	761.0	30.00	762.0	80	26.7	82	E	3	1.3	.....	2c	0	Calm	.....	0.05	1.3	Clear	
Montgomery, Alabama	29.75	755.6	29.98	761.5	79	26.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	29.09	738.9	30.11	764.8	68	20.0	60	Calm	0	0	.....	2c	Sm'e	W	Calm	0	0	Fair	
Mt. Washington, N. H.	23.59	599.2	29.95	760.7	35	1.7	100	NW	42	18.8	.....	.....	Fog	.....	NW	3.49	88.6	Foggy	
Nashville, Tennessee	29.56	750.8	30.03	764.0	74	23 8	55	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.76	755.9	29.87	758.7	71	21.7	58	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.80	756.9	29.84	757.9	71	21.7	58	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	82	27.8	83	NW	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Newport, Rhode Island	30.02	762.5	30.03	762.5	69	20.6	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.75	755.6	29.92	760.0	68	20.0	60	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Norfolk, Virginia	30.01	762.2	30.06	763.5	75	23.9	56	NE	6	2.7	.....	5ck	0	N	.....	0	0	Fair	
North Platte, Nebraska	27.07	687.6	29.50	749.3	72	22.2	78	SE	12	5.4	.....	5c	0	SE	.....	0	0	Fair	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	47	8.3	92	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.92	734.6	29.96	761 0	72	22.2	62	SE	12	5.4	.....	5c	2s	Calm	Calm	0	0	Fair	
Oswego, New York	29.67	753.6	29.98	761.5	68	20.0	70	N	7	3.1	.....	0	0	.....	.....	0.02	0.5	Clear	
Pembina, Dakota	29.31	744.5	30.11	764.8	65	18.3	91	S	5	2 2	.....	2ck	0	W	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.92	760.0	29.97	761.2	70	21.1	48	NW	17	7.6	.....	0	Sm'e	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.78	731.0	.....	.....	84	28.9	47	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	37	2.8	90	W	9	4.0	.....	10c	0	SW	.....	0.03	0.8	Cloudy	
Pioche, Nevada	24.12	612.6	29.89	759.2	64	17.8	58	S	1	0.4	.....	2k	2s	S	Calm	0.02	0.5	Fair	
Pittsburg, Pennsylvania	29.29	744.0	30.03	764.0	61	16.1	77	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.45	748.0	30.10	764.5	62	16.7	77	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	29.72	754.9	29.75	755.9	64	17.8	58	NW	16	7.2	.....	8k	NW	.....	.....	0.01	0.3	Cloudy	
Portland, Oregon	30.00	762.0	30.10	764.5	54	12.2	87	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.86	631.4	30.22	767.6	61	16.1	61	Calm	.....	.....	0	0	2ks	.....	Calm	0.17	4.3	Fair	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	85	29.4	76	E	2	0.9	.....	5cs	0	SW	.....	0	0	Fair	
Red Bluff, California	29.50	749.3	29.84	757.9	68	20.0	56	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.42	747.3	30.01	762.2	66	18.9	69	W	6	2.7	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Roseburg, Oregon	29.49	749 0	30.06	763.5	51	10.6	93	Calm	0	0	.....	2ck	8s	Calm	Calm	0	0	Cloudy	
Sacramento, California	29.76	755.9	29.84	757.9	60	15.6	77	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.56	750.8	30.12	765.0	68	20.0	60	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.99	761.7	30.00	762.0	82	27.8	87	W	4	1.8	.....	8k	0	W	.....	0	0	Fair	
St. Paul, Minnesota	29.28	744.0	30.10	764.5	64	17.8	83	SE	5	2.2	.....	5cs	0	SW	.....	0	0	Fair	
Salt Lake City, Utah	26.05	661.6	29.98	761.6	72	22.2	54	SW	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
San Antonio, Texas	29.27	743.4	29.83	757.7	76	24.4	91	NE	7	3.1	.....	Haze	0	S	.....	2.20	55.9	Smoky	
San Diego, California	29.89	759.2	29.96	761.0	64	17.8	94	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.48	748.8	30.13	765.3	70	21.1	70	NW	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Sandy Hook, New Jersey	29.89	759.2	29.92	760.0	69	20.6	61	NW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.86	758.4	29.93	760.2	56	13.3	81	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	59	15.0	57	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Savannah, Georgia	29.90	759.4	29.99	761.7	81	27.2	87	NE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.79	756.7	30.00	762 0	80	26.7	87	E	6	2.7	.....	2k	0	E	.....	0.02	0.5	Fair	
Silver City, New Mexico	24.36	618.7	30.38	771.4	65	18.3	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.99	761.7	30.03	762.7	81	27.2	70	NE	10	4.5	.....	1cs	1ks	W	E	1.40	35.6	Fair	
Springfield, Massachusetts	29.68	753.9	29.80	756.9	71	21.7	49	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.93	684.0	29.93	760.2	74	23.3	99	SE	4	1.8	.....	8k	0	S	.....	0	0	Fair	
Thatcher's Island, Mass.	29.74	755.4	29.79	756.7	61	16.1	77	NW	12	5.4	.....	2k	8s	NW	NW	0	0	Fair	
Toledo, Ohio	29.46	748.3	30.11	764.8	67	19.4	64	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Tucson, Arizona	27.37	695.2	29.93	760.2	79	26.1	86	SE	.....	.....	1	1ks	0	Calm	.....	0	0	Clear	
Tybee Island, Georgia	29.92	760.0	29.95	760.7	80	26.7	87	NE	11	4.9	.....	0	8ks	.....	NE	0	0	Cloudy	
Umatilla, Oregon	29.57	751.1	.....	.....	66	18.9	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	80	26.7	66	E	2	0.9	.....	2c	0	Calm	.....	0.15	3.8	Fair	
Virginia City, Montana	24.39	619.5	29.87	758.7	62	16.7	72	SE	2	0.9	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Visalia, California	29.53	750.0	29.89	759.2	68	20.0	65	SW	2	0.9	.....	0	5ks	.....	S	0	0	Fair	
Washington, D. C.	29.95	760.7	30.00	763.5	69	20.6	61	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	.....	Calm	.....	.....	0	0	0	.....	.....	Inap	Inap	Clear	
Wilmington, N. Carolina	29.94	760.5	30.01	762.2	75	23.9	81	NE	8	3.6	.....	2k	0	Calm	.....	0.03	0.8	Fair	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	67	19.4	42	S	6	2.7	.....	5k	5s	S	S	0	0	Cloudy	
Wood's Holl, Mass.	29.75	755.6	29.80	756.9	68	20.0	60	N	14	6.3	.....	0	5s	.....	NW	0	0	Fair	
Yankton, Dakota	28.74	730.0	29.99	761.7	66	18.9	92	SE	11	4.9	.....	.....	10n	.....	Calm	2.08	52.8	L'ght rain	
Yuma, Arizona	29.71	754.6	29.86	758.4	80	26.7	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.86	758.4	29.91	759.7	60.5	15.8	82	S	8	3.6	.....	0	0	.....	.....	1.00	25.4	Foggy	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.98	761.5	30.00	762.0	83	28.3	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. M. Everett.
Navassa, W. I.	29.89	759.2	29.97	761 2	85	29.4	.....	SE	7.9	3.5	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.07	763.8	30.07	763.8	80	26.7	87	SE	2	0.9	.....	5k	7ks	E	.....	0	0	⅛ cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A.	25.25	641.3	.....	.....	67.5	19.7	85	SW	9	4.0	.....	.....	10n	.....	.....	0.01	0.3	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.6 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,916.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Ploche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,58((?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,596 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Ploche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.92	760.0	69	15.0	56	13.3	87	SW	20	8.9	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	30.14	765.5	82	27.8	82	27.8	87	NW	1	0.4	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.87	758.7	79	26.1	63	17.2	42	NW	3	1.3	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan.....	29.99*	761.7*	76	24.4	75	23.9	90	SW	.....	.....	2	.....	2k	.....	SW	Slight	Slight	.....	.....	Fair	
Adams. Apia, Samoan Islands...	30.02	762.5	80	26.7	79	26.1	91	E	.....	.....	2	.....	1	.....	E	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France.....	29.91‡	759.7‡	.....	.....	70	21.1	100	NW	.....	.....	0-1	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Ashuelot. Nagasaki, Japan.....	30.00	762.0	82	27.8	79	26.1	95	Calm	.....	.....	0	.....	5	.....	Calm	.....	.....	.....	.....	Fair	
Alaska, S. 13° 40', W. 37° 02'.....	30.36	771.1	77	25.0	77	25.0	73	SE	.....	.....	3	.....	4	.....	NW	0	0	Smooth	.....	D. clouds.....	
Canonicus, New Orleans, La.....	30.06	763.5	68	14.4	82	27.8	87	SW	.....	.....	3	.....	1	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.....	29.91‡	759.7‡	.....	.....	70	21.1	57	WNW	10	4.5	....	.....	2	.....	WNW	0	0	.....	.....	Hazy	
Constitution, Havre, France.....	29.94‡	760.5‡	.....	.....	70	21.1	90	W	.....	.....	2	.....	9	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	29.97‡	761.2‡	.....	.....	74	23.3	55	NE	.....	.....	4	.....	2	.....	NE	.....	.....	Mod'ate	NE	Clear	
Franklin, Norfolk, Va.....	30.18	766.6	78	25.6	76	24.4	56	NNE	5	2.2	.....	.....	2	.....	NNE	0	0	.....	.....	Clear.	
Gettysburg Messina, Sicily.....	29.96‡	761.0‡	.....	.....	81	27.2	??	NNE	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Hartford, Rio de Janeiro, Brazil ...	30.29	769.4	.....	.....	67	19.4	79	N	4.8	2.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	30.09	762.0	81	27.2	82	27.8	75	E	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan. Buffalo, N. Y.....	29.70	754.4	70	21.1	66	18.9	84	NE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	... .	Hazy.....	
Monocacy. Yokohama, Japan	29.95‡	760.7‡	.....	.....	77	25.0	91	S	.....	.....	3-4	.....	5	.....	S	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.....	30.19†	766.8†	.....	.....	80	26.7	91	NNE	11	4.9	.....	.....	8	.....	NE	0.003	0.08	.....	.....	Cloudy.....	
Onward, Callao, Peru.....	30.13†	765.3†	.....	.....	62	16.7	83	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.54	750.3	71	21.7	71	21.7	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.	
Pensacola, Mare Island, California	29.99	761.7	60	15.6	55	12.8	93	SSW	17	7.6	.....	.....	10	.....	SSW	.....	.....	.....	.....	Overcast.....	
Plymouth. New York, N. Y..... ...	29.93‡	760.2‡	.....	.....	68	20.0	65	NNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ranger. Hong-Kong, China.....	29.97*	761.2*	.....	.....	84	28.9	83	S	.....	.....	2	.....	3	.....	Calm	.....	.....	.....	.....	D. clouds,....	
Rio Bravo. Brownsville, Texas.....	29.94	760.5	81	27.2	81	27.2	96	SSE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	30.02‡	762.5†	.....	.....	69	20.6	61	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	29.92	760.0	70	21.1	71	21.7	62	NW	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear..	
Supply, Havre, France.....	30.04	763.0	71	21.7	71	21.7	90	NW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.....	29.78‡	756.4‡	.....	.....	65	18.3	89	N	.....	.....	4	.....	8	.....	N;W	.....	.....	.....	.....	Cloudy.....	
Trenton, Gibraltar.....	30.05‡	763.3‡	.....	.....	81	27.2	83	SSW	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico.....	29.75	755.6	78	25.6	78	25.6	86	ENE	.....	.....	1	.....	8	.....	NE	1.75	44.5	.....	.....	Fair.....	
Wandalia, Beirut, Syria.....	29.63‡	752.6‡	.....	.....	87	30.6	65	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	Smooth	.....	Clear..... ...	
Wabash, Boston, Mass.....	29.76‡	755.9‡	.....	.....	65	18.3	63	NW	16	7.2	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
Wyoming, N. 45° 58', W. 48° 35'.....	29.73†	755.1†	.....	.....	55	12.8	??	WSW	.....	.....	6	.....	10	.....	.....	.....	.....	Long rough	WSW	Raining.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 27° 38′, E. 124° 54′		29.92*	760.0*	85	29.4	100	SSE			3		1		SSE	0	Light	SSW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 46° 20′, W. 124° 50′		30.16*	766.1*				NNW			2		6		NW		Smooth	NW	Overcast	Capt. Seabury.
S. S. City of Peking, N. 37° 07′, W. 136° 40′		30.33†	770.4†	60	15.6	100	NNW	22	9.8			5		NNW	0	Small	NNW	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 25° 5′, W. 112° 42′		29.88†	758.9†	68	20.0	95	NW			3		8		SE	0	Very small	NW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 48° 15′, W. 38° 10′		30.13*	765.3*	57	13.9	94	SW			6				W	Blank	Heavy	W	Gloomy	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 42° 34′, W. 51° 25′		29.83†	757.7†	65	18.3	78	SSW			5		10			14hours	High	SW	Squally	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 45° 10′ W. 158° 50′		30.22*	767.6*	56	13.3	100	SE			3		Fog				Smooth		Foggy	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.13*	765.3*	70	21.1	95	W			2		3		W	0			Partly cl'dy	Captain Sargent.
S. S. Ohio, Liverpool		29.95	760.7	69	20.6	56	S			2		9		SSE	0			Hazy	Captain Morrison.
S. S. Pennsylvania, N. 46° 40′, W. 45° 22′		29.77†	756.1†	59	15.0	100	SSW			6		10		SW	0.75 in. or 19.1 mm.	Heavy	SW	Stormy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 44° 10′, W. 47° 02′		29.88*	758.0*				SW	50	22.4			2		WSW		Very heavy	WSW	Hazy	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, (N. 65° 40′, W. 62°)?		29.71*	754.6*	36.0	2.2	96	NNE			3		10s			0.03 in. or 0.8 mm.			Raining	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 24, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.01	762.2	68.7	20.4	84	NE	.....	.....	5	.....	0	.....	.....	0	0	Clear	Dr. Ollive.
Nemours	.....	.....	29.93	760.3	84.2	29.0	59	NW	.....	.....	1	.....	3	.....	.....	0	0	Pretty fair	Michel.
Algiers	.....	.....	29.86	758.6	85.6	29.8	48	NNE	.....	.....	3	.....	1	.....	.....	0	0	Very fair	Tourillere.
La Calle	.....	.....	29 87	758.6	80.4	31.9	62	NNE	.....	.....	3	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	29.90	759.4	101.8	38.8	.....	SE	.....	.....	5	.....	4	.....	.....	0	0	Cloudy	Jacques.
Sfax	.....	.....	29.98	761.5	87.8	31.0	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.00	762.1	86.0	30.5	16	N	.....	.....	1	.....	0	.....	.....	0.035	0.9	Clear	Herbin.
Tebessa	.....	.....	29.94	760 5	72 9?	22.7?	65	NW	.....	.....	7	.....	10	.....	.....	Blank	Blank	Covered	Watrin.
Geriville	.....	.....	29.98	761.5	99.4	35.8	.....	W	.....	.....	8	.....	9	.....	.....	0	0	Covered	Brugnlaux.
Laghouat	.....	.....	30.02	762.5	97.2	36.2	19	W	.....	.....	8	.....	1	.....	.....	0.039	1.0	Very fair	Bertrand.
Biskra	.....	.....	29.91	759.8	102.9	39 4	.....	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.0? feet; Tebessa, 1,088? m., or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.11	739.4	29.62	752.4	85.3	29.6	54	SW	.....	.....	3	.....	0	.....	.....	1.000	25.4	.....	Prof. Ivan Stoun
Cracow	28.97	735.9	29.70	754.4	69.8	21.0	52	E	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Dr. Karlinski.
Eperies	28.78	731 0	29.60	751.9	81.1	27.3	65	S	.....	.....	2	.....	5cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.45	722.6	29.63	752.5	78.8	26 0	65	SW	.....	.....	5	.....	5	.....	.....	0.106	2.70	.....	Andreas Rospini.
Hermannstadt	28.20	716.3	29.52	749 8	82.8	28.2	35	WNW	.....	.....	4	.....	5	.....	.....	0.126	3.20	Thunder-storm.	Prof. Reissenberg
Kremsmünster	28.39	721.0	29.66	753.3	74.5	23.6	56	WNW	.....	.....	4	.....	8	.....	.....	0.354	9.0	.....	Prof. C. Wagner
Lemberg	28.69	728.8	.....	.....	65.8	18.8	45	NE	.....	.....	1	.....	3	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.56	750.9	29.67	753.5	87.3	30.7	53	SSE	.....	.....	2	.....	9cs	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.21	741.8	29.65	753.0	74.5	23.6	75	SE	.....	.....	3	.....	8	.....	.....	0.433	11.0	Rainy	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.56	750.9	29.67	753.5	91.0	32.8	42	WSW	.....	.....	1	.....	2	.....	.....	0.591	15.0	Thunder-storm	P. Busin.
Vienna	28.95	735.4	29.62	752.4	84.6	29.2	44	NW	.....	.....	1	.....	3	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	WSW	.....	.....	1	.....	5	.....	.....	0.220	5.6	.....	Prof. M. Passau.
Brussels	28.56	750.7	29.75	755.6	70.2	21.2	75	SSW	.....	.....	2	.....	10	.....	SW	0.075	1.90	.....	Royal Observatory
Furnes	29.76	755.9	29.78	756.5	69.4	20.8	82	W	.....	.....	3	.....	10	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.47	748.6	29.60	751.8	71.4	21.9	87	W	.....	.....	2	.....	8	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.71	754.6	29.81	757.2	61.1	16.2		SE	15	6.7			8			0	0	Blue sky	W. Boswell.
Ardrossan	29.69	754.1	29.70	754.4	64	17.8		SE			1		9					Raining	George Carrick.
Armagh, Observatory			29.73	755.1	62.8	17.1		NW	4	1.8			10					Raining	S. Call.
Bidston, (Liverpool Obs.)			29.66	753.4	67.7	19.8		ESE	14	6.3			9					Overcast	John Hartnup.
Birr Castle, (Parsonstown)			29.76	755.9	67.0	19.4		WNW			3		10					Overcast	J. L. E. Dreyer.
Bolton																			Thomas Mackereth.
Bradford, Yorkshire	29.33	745.0	29.73	755.1	60.4	15.8		E			2		10			0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	29.98	761.5	83.5	28.6		NE			3		3					D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory			29.68	753.9	71.0	21.7		E			1		10					Thunder	H. Todd. [H.C.
Cardington			29.72	754.9	73.0	22.8		SE			1		8					Overcast	John McLaren.
Chatham, School M. E.	29.65	753.1	29.78	756.4	68.2	20.1		S			2		9					D. clouds	Lt. W. G. Morris, R. E.
Dartmoor	28.38	720.8	29.81	757.2	57.0	13.9		NW			5		8					Drizzling	Alexander Watt.
Donaghadee	29.66	753.4	29.69	754.1	58	14.4		S			1		10					Raining	J. Mac Gowan.
Dover	29.71	754.6	29.73	755.1	66	18.9		SE			3		5					⅓ clouded	J. Costello.
Eccles, (near Manchester)			29.69	754.1	65.5	18.6		E	1.6	0.7			10					Gloomy	Thomas Mackereth.
Falmouth, Observatory	29.59	751.6	29.81	757.2	67.6	19.4		WNW			4		6					Overcast	The Staff.
Fort Napier, (Natal)	27.39	695.7	29.70	754.4	78.2	25.7		E			4		4					D. clouds	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.83	757.7	30.06	763 5	74	23.3		W			1		4					Raining	
Galway, Queen's College			29.75	755.6	65	18.3		WNW			3		9					Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.86	758.4	29.92	760.0	84.3	29.1		W			6		1					Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.62	749.8	29.73	755.1	63.3	17.4		NNE			4		10					Gloomy	D. G. Maclean.
Great Yarmouth	29.74	755.4	29.74	755.4	62	16.7		NE			2		5					Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.55	750.6	29.71	754.6	68.6	20.3		SW			1		10					Thunder	The Staff, for G. B. Airy.
Guernsey	29.54	750.3	29.76	755.9	65	18.3		NW			3		8					D. clouds	Dr. S. F. Hoskins, F.R.S.
Helston			29.86	758.4	70	21.1		N			4		3c			0.24	6.1	Fine	M. P. Moyle.
Holyhead	29.63	752.6	29.69	754.1	61	16.1		WNW			3		10					Drizzling	John Tilston.
Jersey	29.52	749.8	29.80	756.9	63.3	17.4		WNW			3		10					Showery	J. Fisher.
Kew, Observatory			29.72	754.9	68.0	20.0		SW	9	4.0			10kd					Hazy	The Staff.
Kingstown	29.70	754.4	29.73	755.1	61	16.1		WNW			4		10					Raining	George Mitchell.
Leicester, Museum			29.68	753.9	66.8	19.3		SE			1		10					Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.80	756.9	29.87	758.7	91	32.8		NW			1		0					Blue sky	Sgt. Hewitt, A. H. C.
Nairn	29.64	752.8	29.73	755.1	67	19.4		Calm			0		5					⅓ clouded	W. D. Penny.
Nassau, (Bahamas)			30.02	762.5	84.5	29.2		NE			1		8					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.52	749.8	29.70	754.4	68.8	20.4		NE			3		10kd		E	1.994	50.6	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.17	740.9	29.67	753.6	65.8	18.8		E			2		10					Thunder-storm	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.70	754.4	66	18.9		N			1		9					Overcast	H.E. Bellamy.
Plymouth	29.68	753.9	29.76	755.9	69.0	20.6		NW			1		10					Overcast	John Merrifield.
Roche's Point	29.75	755.6	29.80	756.9	63	17.2		NW			5		5					Lightning	W. Kennedy.
Saint Ann's Head	29.58	751.3	29.74	755.4	63	17.2		WNW			2		4					D. clouds	John C. Walker.
Sandwick Manse, (Orkneys)			29.76	755.9	60.1	15.6		SE	30	13.4			0					Blue sky	Rev. C. Clouston, LL.D.
Scutari, Cemetery, (Turkey			29.72	754.9	80.0	26.7		SW			1		0					Blue sky	Sergt. W. H. Lyne.
Sheffield	29.48	748.8	29.75	755.6	61.1	16.2		NE			1		10			0.10	2.5	Overcast	W. F. Cooper.
Silloth Rectory	29.63	752.6	29.66	753.4	67.4	19.7	67	SE			2		4			0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.32	744.7	29.73	755.1	61.0	16.1		ENE			1		10					Drizzling	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	29.64	752.8	29.67	753.6	68	20.0		SE			1		Haze						John Sutherland.
Stratfield Turgiss	29.51	749.5	29.72	754.9	68.0	20.0		SW			1		8					Thunder-storm	Rev. C.H. Griffith, F.M.S
Thurso			29.75	755.6	65	18.3		SE			3		5					D. clouds	John Trotter.
Truro, Royal Institution			29.84	757.8	71	21.7		NW			6		6					D. clouds	W. Newcombe.
Valencia, Observatory			29.87	758.7	62.8	17.1		NW	18	8.0			8			Blank	Blank	D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)																			Henry Mercer.
Cape Good Hope, Obs'y																			The Staff, for E.J. Stone.
Hobart Town, (Tasmania)			29.52	749.8	62.0	16.7	82	NW			3		4k			0.3	8.		Francis Abbott, F.R.A.S.
Leith, Restalrig Park																			Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764.8	71.9	22.2	66	SE	25.0	11.2		1	2		SE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.86	758.4	29.95	760.7	53.6	12.0	77	NNE	10	4.5			0			0	0	Fine	R. L. J. Ellery.
Monach Light-house, (Hebrides)																			J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
S. S. Algeria				Capt. W. Watson.
S. S. Batavia				Capt. J. E. Mouland.
Ship Camperdown				Capt. A.T. Miller.
Brig Catherine, N. 55° 5′ W. 49° 5′	4	N&E	D. clouds	Capt. Alex. Wilson.
Barque Celeste				
Barque Commewyne				Capt. A. Buchan.
S. S. Don				A. S. Thomson.
S. S. Gordon Castle				Capt. W. Waring.
S. S. Hibernia				Capt. W. R. Cato
Barque Margaret Smith				Capt. D. W. A. Quaile
Barque Maroon				Capt. A. T. Brown.
Ship Mikado				Capt. C. C. Prehn.
S. S. Naid				Capt. J. Smith. [R.
S. S. Peruvian				Capt. W. H. Smith, R. N.
Royal Alice				Capt. E. M. Hughes.
S. S. Seine				Capt. H. Manning.
Barque Sorata				
Schooner Traveller, N. 48° 50′, W. 50° 35′	4		Rain and fog	Capt. Alex. Simpson.
Barque Virginia, N. 50° 20′, W. 7° 5′	5	NW	D. clouds	Capt. W. Spratly.
S. S. Yorkshire				Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San Jose	26.27	667.2			68.9	20.5	92	Calm			0		9s		E	0.6	15.		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.79	756.6	29.84	757.8	62.8	17.1	51	NNE			2		0						
Fanöe	29.81	757.1	29.83	757.6	71.6	22.1		E			4		0						
Godthaab, (Greenland)	29.60	751.7	29.04	752.8	41.2	5.1		S			6		10						Raining
Stykkisholm, (Iceland)	29.42	747.3	29.47	748.4	52.9	11.6	88	S			6		8						
Thorshavn, (Faröe)	29.77	756.1	29.80	757.0	54.5	12.5	94	SE			2		10						Foggy
Vestervig	29.72	754.9	29.89	759.2	69.1	20.6	47	NE			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.33	745.0	29.88	759.0	78.4	23	81	SW			1		8			0.421	10.7	Very cloudy	Collignon, Director.
Amiens, Normal School	29.71	754.6	29.82	757.3	68.7	20.4	74	SW			2		10			0.181	4.6	Covered	Bonvallet, Director.
Avignon, Normal School	29.73	755.2	29.81	757.2	84.7	29.3	44	N			2				NW	0	0	Heavy clouds	Mr. Giraud, Director.
Bar-sur-Seine	29.29	743.9	29.83	757.6	75.0	23.9	55	WSW			2		8kn		SW	0.205	5.2	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.51	749.6	29.78	756.4	79.5	26.4	68	W			3		8		SW	0.020	0.50	Very cloudy	Normal School.
Besançon	28.98	736.2	29.84	757.9	72.0	22.2	81	SSW			2		10		SW	0.024	0.6	Covered	Normal School.
Bourg-en-Bresse	29.13	739.8	30.06	763.5	75.0	23.9	61	W			2		10n		W	0.08	2.	Covered	Normal School.
Bourges, Normal School	29.36	745.8	30.00	762 1	71.6	22	72	SSW			2		n		SSW	0.12	3.		A. Wagner, Director.
Brest, Naval Observatory	29.59	751.5	29.83	757.7	71.6	22.0	62	W			4		9		W	0.384	9.75		The Staff.
Carcassonne, Normal School	29.58	751.4	29.98	761.4	77.0	25	61	NW			4		2		W	0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.24	742.8	29.79	756.6	76.3	24.6	69	SW			2		5		SE	0.028	0.7		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	30.05	763.3	29.96	761.0	78.4	25.8	56	S			4		8ck		S	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.3	29.86	758.4	71.6	22.0	56	W			3		8		W	0.016	0.4	Very cloudy	Alluard, Director.
Commercy, Normal School	28.98	736.0	29.82	757.5	69.8	21	82	W			4		5		E	0.004	0.1	Light rain	Dr. Coulet, Director.
Commune de Gréasque*	28.80	731.5	29.94	760.5	83.3	28.5	40	NW			6		2		NW	0	0	¼ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.66	753.4	29.87	758.7	70.9	21.6	76	W			2		10			0.04	1.	Covered	Mouillot, Director.
Le Mans, Normal School	29.50	749.3	29.80	756 8	74.3	23.5	62	SW			4		5		SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.97	735.8	29.84	757.9	77.4	25.2	46	W			2		2		W	0.08	2.	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.76	755.8	29.85	758.3	72.3	22 4	68	NW			2		8		NW	0.472	12.0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.23	742.4	29.89	759.1	74.1	23.4	65				6		0			0	0	Clear.	M. Galzin, Director.
Mirecourt	28.76	730.4	29.76	755.8	72.7	22.6	74	SE			2		5		NW	0	0	Cloudy	Normal School
Nismes, Normal School	29.63	752.5	29.82	757.3	86.4	30.2	35	NW			1		2		SE	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.43	747.5	29.80	756.8	77.0	25	66	S			2		2		S	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.55	750.6	29.78	756.4	73.9	23.3	56	SW			1		9		SW	0	0	Almost cov'd	National Observatory.
Privas	29.05	737.9	30.07	763.8	78.8	26	54	N			2		1		N	0	0	Clear.	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.1	29.9	759.9	74.8	23.8	68	SW			4		10		SW	0 35	9.	Covered	Lt. Decante, Director.
Rouen, Normal School	29.69	754.0	29.77	756.1	74.1	23.4	64	SSW			2		5		SW	0.177	4.5	Cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School																			T. Huguet, Director.
Villefranche, Normal School	28.93	734.9	29.97	761.1	68.0	20	72	SSW			2		0			0	0	Clear.	
Sub-Series.	29.13	739.9	29.76	755.9	78.8	26	80	NW			4		5		W	0.024	0.6	Cloudy	M. Gausserand, Director.
Fort de France, Martinique																0	0		L'Abbé Marchési.
Lyons			29.91	759.8	82.4	28													L. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis			29.78	756.4	68.3	28.5	37	NW			4-6		3			0	0		M. Cave.
Nice	24.89	632.1	30.20	767.1	67.1	19.5	49	SSE	5.6	2.50			3		SE	0.031	0.8		Dr. A. Niepce.
Paris, Montsouris Obs'y			29.70	754.4	79.9	26.6	73	E			4		1			0	0		Marié Davy, Director
Perpignan	29.51	749.6	29.79	756.6	78.0	22.8	68	SW			3		9		SW	0.075	1.9		Dr. Fines.
Pic du Midi, (Summit, H. P.)			29.90	759.4	84.0	28.9	36	N	20.5	9.17			1		NW	0	0		M. Baylac.
Pic du Midi, (Plaine le) H. P.	22.63	574.4			49.6	9.8		N			1		10			0.228	5.8	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.63	752.5	29.79	756.7	69.4	20.8	84	SW			1		10		SW	0.236	6.0		E. Renou.
Toulouse, Observatory	29.28	743.6	30.00	761.9	78.3	25.7	43	W			3		8			0	0		The Staff.
Tours	29.63	752.5	29.82	757.5	71.6	22.0	75	SW			3		10		SW	0	0		C. Marquet.
Versailles, (near Paris)			29.81	757.2	73.4	23.0	53	SW			1		10			0.086	2.18	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.72	755.0	29.75	755.6	82.4	28.0	93	SE	8.5	3.8			0			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 358 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.6 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Upper 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.89	733.7	29.72	754.9	74.8	23.8	77	W			2		5	W		0.12	3.	Raining	Prof. Dr. Hoh.
Berlin	29.62	752.3	29.78	756.5	71.8	22.1	32	SE			2		0			0	0		Prof. Arndt.
Breslau	29.26	743.3	29.79	756.7	68.9	20.5	30	NNE			2		0			0	0		Royal University Obs'y
Carlsruhe	29.34	745.2	29.74	755.5	74.5	23.6	74	SW			4		8			0	0		Albert Senz.
Cassel	29.14	740.2	29.74	755.4	77.0	25.0	68	W			1		6	SW		0.080	2.02		Dr. H. Möhl.
Crefeld	29.58	751.2	29.74	755.3	74.8	23.8	68	NW			2		7k			0.75	19.		Director Lose.
Emden	29.65	753.2	29.69	754.2	74.3	23.5	33	E			2.5		0			0.008	0.2		Prof. Prestel.
Frankfort on the Main	29.43	747.5	29.77	756.2	79.2	26.2		N			2		5			Inap.	Inap.		Physical Society.
Friedrichshafen	28.45	722.5	29.83	757.6	70.5	21.4	78	S					8	WSW		Blank	Blank		M. Wilhelm.
Hamburg	29.76	755.8	29.82	757.5	70.5	21.4	39	E			4		0			0	0	Very Fine.	Captain F. Hegemann.
Kiel	29.82	757.4	29.84	757.8	67.5	19.7	39	NE			2		0			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.67	753.7	29.76	755.8	58.1	14.5	65	NW			5		6			0.042	1.1		Prof. E Luther.
Köslin			29.85	758.3	64.9	18.3		N			2		0			0	0		H. Müller.
Leipsic, Observatory	29.38	746.2	29.78	756.5	69.8	21.0	71	ESE			1		7	NNW		0.051	1.3		Prof. Bruhns.
Memel, Naval School	29.67	753.6	29.72	754.8	58.1	14.5	53	NW			6		4k;n						Reinbrecht and Skalweit.
Neufahrwasser	29.76	755.9	29.78	756.3	61.7	16.5	72	NNE			4		5			0.012	0.3		A. Lothes.
Posen	29.55	750.6	29.83	757.7	72.5	22.5	33	WSW			2		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.27	743.5	29.80	756.8	74.7	23.7	73	SSW			2		9	W		0.321	8.14	Raining	Astronomical Observatory.
Stuttgart	26.87	733.2	29.75	755.7	76.6	24.8	50	W			1		6	W		0	0		Prof. Schoder.
Treves, (Trier)	29.12	739.7	29.64	752.8	77.9	25.5	51	W			4		10			0.162	4.11		Prof. Flesch.
Weissenburg, (Bavaria)	28.29	718.5	29.70	754.4	74.7	23.7	53	NW	2	1			6ck		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.84	758.0	29.88	759.0	65.8	18.8	32	NNW			2		0			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.40	746.5	29.77	756.2	88.5	31.4		SW			2.5							Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.3	29.47	748.6	86.0	30.0	75	WSW	39?	17.4?			10			0.01	0.3	Threatening	
Deesa	29.04	737.7	29.51	749.6	86.2	30.1	81	SSE					9	E	ENE	0.10	2.5	Thunder...	
Bombay	29.59	751.7	29.63	752.6	79.9	26.6	94	WSW	22	9.8			10		WSW	3.25	82.6	Raining	
Poona	27.64	702.1	29.64	752.9	74.4	23.6	83	WSW					10		WSW	0.16	4.1	Drizzling	
Lahore	28.74	720.9	29.46	748.2	88.6	31.4	66	NE	3.2	1.4			4			0	0		
Belgaum	27.19	690.5	29.73	755.1	71.9	22.2	91	W	17	7.6			10		W	0.53	13.5	Showery	
Bangalore																			
Roorkee	28.55	725.3	29.42	747.2	91.8	33.2	59	SE	4.6	2.1			2			0	0		
Agra	28.30	733.9	29.43	747.6	98.1	36.7	45	E	3	1.3					E	0	0		
Trichinopoly																			
Nagpur	28.47	723.2	29.51	749.5	76.3	24.6	92	W	5.6	2.5			10			2.09	53.1	Overcast	
Madras																			
Lucknow	29.13	740.0	29.49	749.0	95.6	35.3	49	E	5.5	2.5			8		NE	0	0	D. clouds	
Allahabad	29.13	739.9	29.43	747.4	93.2	34.0	69	NE	7.2	3.2			3		E	0	0	D. clouds	
Patna	29.33	745.1	29.51	749.6	85.6	29.8	76	E	1.2	0.5			4	F	NE	0.01	0.3	D. clouds	
Hazaribagh	27.50	698.4	29.48	748.8	79.0	26.1	85	E	15.3	6.8			9	W	E	0.05	1.3	Drizzling	
Cuttack	29.38	746.2	29.46	748.2	86.1	30.1	74	S	5.1	2.3			9			0.23	5.8	Overcast	
Calcutta (Alipore)	29.52	749.6	29.54	750.4	81.2	27.3	91	SE	8	3.6			10	NW	NW	0	0	Overcast	
Goalpara	29.24	742.8	29.63	752.6	82.7	28.2	79	S	4.1	1.8			7			0	0	D. clouds	
Chittagong	29.60	751.9	29.70	754.2	78.9	26.1	95	SE	7.5	3.4			10			0.11	2.8	Raining	
Sibsagar	29.28	743.6	29.60	752.0	85.6	29.8	78	NW	1.9	0.8			5			0.01	0.3	D clouds	
Rangoon																			
Jubbulpore	28.11	714.1	29.46	748.3	80	26.7	87	SSW	2.3	1.0			10			0.01	0.3	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.28	743.7	29.67	753.7	85.5	29.7	47	SW	6.8	2.8	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.59	750.7	29.66	753.4	79.9	26.6	53	N	11.2	5.0	.....	.....	10	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.51	749.5	29.65	753.1	72.1	22.3	71	NW	6.3	2.8	.....	.....	9	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.39	721.2	29.65	753.1	85.0	29.8	44	WSW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	28.81	731.7	29.67	753.7	82.8	28.2	56	SE	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.84	707.1	29.66	753.4	76.9	26.6	46	NW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.51	749.6	29.72	755.0	80.6	27.0	72	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.57	751.0	29.73	755.1	79.2	26.2	73	SE	.....	.....	2	.....	10	SE	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Parma	29.41	746.9	29.71	754.6	72.9	22.7	64	SW	.....	.....	4	.....	10	.....	.....	0.098	2.5	.....	Prof. P. Pigorini.
Florence	29.50	749.2	29.74	755.4	85.1	29.5	44	SW	.....	.....	4	.....	9	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.65	753.2	29.74	755.3	83.3	28.5	64	S	7.4	3.3	.....	.....	2	S	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.69	752.5	29.67	753.7	86.0	30.0	47	SW	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.24	717.3	29.73	755.2	79.9	26.6	46	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.67	753.6	29.84	757.9	83.7	28.7	67	SW	13.0	5.8	.....	.....	10	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.67	753.6	29.86	758.5	85.5	29.7	44	SSE	.....	.....	4	.....	9	WSW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	93.0	34.4	43	SSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.63	752.6	29.82	757.3	88.0	31.1	41	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.99	736.4	29.83	757.7	93.6	34.2	53	SW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.62	752.3	29.86	758.5	89.8	32.1	48	SSW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.73	755.2	29.81	757.1	96.1	35.6	34	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.30	744.1	29.85	758.2	80.8	27.1	61	SSW	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.76	755.9	29.95	760.7	78 2	25.7	87	.....	0.5	0.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	I. Arai, Director.
Tokei (Yeddo) Observatory	29.93	760.2	29.99	761 7	75.6	24.2	91	SW	9.2	4.1	.....	.....	6s	.....	.....	0.010	0.25	Cloudy.....	
Tokei (Yeddo) University	29.86	758.4	29.96	760.9	76.5	24.7	95	SW	12	5.4	.....	.....	9n	.....	.....	Inap.	Inap.	Cloudy.....	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	65.3	18.5	89	N	5.1	2.3	.....	10ck	0	SE	.....	0.05	1.4	Covered.....	L. Castillo, A. E.
Guadalajara	25.15	638.7	30.11	764.7	61.2	16.2	88	Calm	0	0	.....	0	10	.....	E	0.21	5.4	Covered.....	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	65.5	18.7	84	SW	1.8	0.8	.....	2c	2k	E	E	0.04	1.0	Clear.....	Prof. M. Leal.
Mexico	23.18	587.7	30.18	766 5	57.2	14.0	85	Calm	0	0	.....	0	10k	.....	.....	0.02	0.5	Hazy.....	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.0	17.8	90	SE	0.9	0.4	.....	1c	8ck	.....	SE	0	0	Very cloudy	M. V. de Leon, M. E
Puebla	23.32	594.7	30.04	762.9	59.7	15.4	91	NE	3.1	1.4	.....	0	10k	.....	.....	0.02	0.6	Very cloudy	Prof. B. Gonzales.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.96	761.0	29.97	761.3	77.0	25.0	91	S	11.0	4.9	.....	10cs	0	.....	.....	0.04	1.0	Covered....	Prof. F. R. Bayly.
San Luis Potosi	24.30	616.4	30.19	766.7	64.0	17.8	73	SE	0.9	0.4	.....	4	6	W	SW	0.40	10.1	Covered.....	G. Barroeta, M. D.
Vera-Cruz	30.01	762.3	30.04	763.0	80.6	27.0	84	NW	1.8	0.8	.....	0	9n	.....	.....	3.05	77.4	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.9	15 5	90	E	5.1	2.3	.....	0	8	.....	E	0.87	22.0	Foggy.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.38	593 8	30.12	765.1	57.2	14 0	82	Calm	0	0	.....	0	8	.....	.....	0.28	7.1	Cloudy.....	Prof. P. Spina. [M. M. D. D.
Morelia	24.02	610.0	.....	.....	62.2	16.0	59	E	.....	.....	.....	0	6k	.....	S	0	0	½ Cloudy....	M. Tena, F. L. Paramo,
Durango	24.27	616 5	30.08	763.9	66.8	19.3	89	W	0.9	0.4	.....	0	8ck	.....	.....	0.15	3.7	Cloudy.....	M. V. de Leon, C. E.
Colima	28.43	722.2	30.05	763.4	80.2	26.8	78	.....	.....	.....	.....	.....	.....	.....	.....	0.40	10.1	Covered.....	R. Banda, O. E.
San Juan E. Mirhapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerraly Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.78	756.3	29.78	756.3	70.9	21.6	.....	W	.....	.....	3	.....	.....	.....	.....	0.031	0.8	.....	
Groningen	29.71	754.6	29.76	756 0	72 7	22.6	.....	E	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.74	755.4	29.74	755.4	70.9	21.6	.....	ENE	.....	.....	2	.....	.....	.....	.....	0.004	0.1	.....	
Hellevoetsluis	29.77	756.2	29.77	756.2	69 3	20.7	90	NNW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.71	754.5	29.75	755.7	75.2	24.0	68	SSW	.....	.....	2	.....	8	.....	.....	0.020	0.5	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.85	758.2	29.91	759.6	64.4	18.0	60	S	32.0	14.3	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.91	759 8	29.95	760.8	53.2	11.8	56	N	27	12	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.70	754.4	29.84	758.0	66.9	19.4	39	WSW	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.81	757.1	29.85	758.2	47.1	8.4	60	N	4	2	.....	.....	10	.....	.....	0.126	3.2	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.23	767.7	30.41	772.5	73.0	22.8	88	SSW	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.4	29.97	761.1	83.3	28.5	43	W	11.2	5.0	.....	.....	9	NNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.10	764.6	30.19	766.8	73.9	23.3	65	SW	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.5	30.10	764.4	69 8	21.0	64	N	16.1	7.2	.....	.....	9	N	.....	Blank	Blank	.....	The Staff.
Ponta Delgada, (Azores)	30.34	770.5	30.41	772.3	75.2	24.0	59	NE	8.1	3.6	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 9° 00′, E. 13° 00′	.....	.....	30.01	762.3	69.8	21.0	.....	SW	.....	.....	1	.....	0	.....	.....	1	.....	Blue sky.	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	29.81	757.2	87.8	31.0	.....	N	.....	.....	4	.....	1	.....	NW	2	N	Blue sky.	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	30.00	762.0	80.4	26.9	.....	NE	.....	.....	6	.....	2	.....	NE	3	NE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.95	760.8	70.7	21.5	.....	W	.....	.....	1	.....	10	.....	.....	1	.....	Overcast	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.31	744.4	29.71	754.7	67.3	19.6	39	NNW	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.14	740.2	29.55	750 6	61.2	16.2	41	NW	20	9	.....	.....	8	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.17	740.9	29.41	747.0	51.6	10.9	86	NW	11	5	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.21	741.9	29.22	742.3	50.7	10.4	92	N	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1k	.....	.....	.....	.....	Light clouds	Ch. Forsten.
Kieff	28.89	733.9	29.50	749.3	66.9	19.4	39	NW	9	4	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.64	752 9	29.71	754.7	82.4	28.0	64	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.69	754.2	29.71	754.7	79.9	26.6	63	S	4	2	.....	.....	10s	.....	.....	.....	.....	Raining	Lagorio.
Moscow	28.66	727.9	29.20	741.6	50.2	10.1	91	SSW	11	5	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Lugan	29.28	743.7	29.48	748.7	67.8	19.9	83	S	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.26	743.1	29.28	743.6	57.9	14.4	75	NNE	18	8	.....	.....	10k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.44	722.3	29.78	756.4	78.6	25.9	50	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.83	757.7	29.75	755.6	81.5	27.5	36	S	20	9	.....	.....	.....	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	28.99	736.3	29.24	742.8	61.2	16.2	82	SW	4	2	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4ck;s	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.45	722.7	29.34	745.1	73.6	23.1	39	W	22	10	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs
Nukuss	29.63	752.5	29.85	758.1	81.5	27.5	34	NNE	9	4	.....	.....	.....	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	.....	.....	Light clouds	Bobrof.
Tashkend	28.33	719.6	29.94	760.4	83.1	28.4	28	NW	2	1	.....	.....	10	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.03	737.3	29.51	749.5	83.3	28.5	49	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.39	746.5	29.67	753.5	78.3	25.7	70	SE	4	2	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2cs	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.46	748.2	29.60	751.8	80.4	26.9	89	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 5° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.8	29.90	759 4	81.1	27.3	55	S	5.1	2.28	.....	4c	.....	.....	.....	0	0	Misty	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.4	66.2	19.0	87	NW	3.0	1.32	.....	10	.....	.....	.....	0.028	0.7	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.3	.....	.....	72.5	22.5	59	NE	3.0	1.33	.....	9	.....	.....	.....	0	0	Almost cov.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.76	705.1	29.85	758.3	66.0	30.0	31	NW	12.0	5.35	.....	0	9	.....	.....	0	0	Almost cov.	The Staff.
Murcia, Met. Obs'y	29.78	756.5	29.93	760.1	88.7	31.5	58	E	4.4	1.97	.....	2	5	WNW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.21	741.8	30.06	763.4	66.4	19.1	72	NNE	10.4	4.66	.....	.....	9	.....	.....	0.134	3.4	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.98	761.6	30.05	763.2	84.7	29.3	82	ENE	2.2	1.0	.....	10c	1k	E	.....	0	0	Fair	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
Sao Fernando, Naval Obs'y	29.89	759.3	29.99	761.7	78.4	25.8	62	W	16.8	7.5	.....	2	6	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.90	759.4	29.99	761.7	81.7	27.6	92	SE	0	0	.....	5cs	3k	SE	SE	2.677	68.00	Cloudy	Leonardo de Tejeda, Ch'f Eng'rs.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the coöperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour	Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	Observer.
Haparanda	29.69	754.0	29.72	755.0	57.2	14.0	......	N	......	......	6	......	6	......	......	0	0	......	
Umea	29.72	754.8	29.77	756.1	59.0	15.0	82	NW	......	......	6	......	9	......	......	0	0	......	
Hernosand	29.73	755.2	29.78	756.5	62.2	16.8	29	N	......	......	6	......	5	......	......	0	0	......	
Stockholm	29.63	752.6	29.81	757.1	55.8	13.2	89	N	......	......	6	......	6	......	......	0	0	......	
Wisby	29.74	755.5	29.80	757.0	56.8	13.8	......	N	......	......	7	......	3	......	......	0.016	0.4	......	
Sub-Series.																			
Upsala	29.73	755.2	29.81	757.1	57.2	14.0	88	N	17.0	7.6	......	......	3	......	NNW	0	0	......	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the coöperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

STATIONS.	Barometer. Corrected. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Miles per hour	Meters per second.	Force.	Up'er.	Low'r.	Upper. From—	Lower. From—	Rain. Inches.	Millimeters.	Weather.	Observer.
Geneva	28.48	723.5	29.85	758.3	73.4	23.0	66	SW	......	......	3	......	9	......	......	0.303	7.7	Covered	The Observatory.
Zurich	28.26	717.9	29.85	758.1	71.2	21.8	70	SE	......	......	......	......	8	......	......	0.331	8.4	Rainy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.3 mm.; Thermometer, +0.3 cent.; Relative Humidity, +14 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

STATIONS.	Barometer. Corrected. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Miles per hour	Meters per second.	Force.	Up'er.	Low'r.	Upper. From—	Lower. From—	Rain. Inches.	Millimeters.	Weather.	Observer.
Constantinople	......	......	29.78	756.5	81.5	27.5	40	SSE	8	3.5	......	......	2	......	NE	0	0	......	The Observatory.
Fao, (Persian Gulf)	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	
Valona	......	......	29.93	760.2	91.0	32.8	......	W	......	......	1	......	0	......	......	0	0	Clear	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.51	749.5	29.62	752.3	91.9	33.3	60	W	......	......	3	......	1s	......	W	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Direction. From—	Miles per hour	Meters per second.	Force.	Up'er.	Low'r.	Upper. From—	Lower. From—	Rain. Inches.	Millimeters.	Weather.	Observer.
Bathurst, N. B	......	......	......	......	60.9	16.1	88	NE	2	0.9	......	0	0	......	......	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.76	755.9	30.05	763.3	74	23.3	......	Calm	0	0	......	0	0	......	......	0	0	Clear.	W. R. Bigg.
*Chatham, N B	29.78	756.4	29.84	757.9	59	15.0	91	Calm	0	0	......	10c	0	Calm	......	Inap.	Inap.	Fair	G. A. Blair.
Charlottetown, P. E. Island.	29.81	757.2	29.85	758.2	61	16.1	69	NW	6	2.7	......	0	5ks	......	Calm	0.040	1.02	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.82	757.4	30.00	762.0	64.8	18.2	75	W	......	......	1	0	0	......	......	0	0	Clear.	James Smith, M. A.
Dalhousie, N. B	29.60	753.4	29.82	757.4	61.8	16.6	86	W	......	......	1	......	......	......	......	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.67	761.2	30.02	762.5	53.2	11.8	100	NW	......	......	......	0	0	......	......	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.83	757.7	29.85	758.2	54	12.2	84	SW	14	6.3	......	......	Sm'e	......	Calm	0.02	0.5	Smoky	J. McWilliams.
Fredericton, N. B	29.85	758.2	29.91	759.7	63.3	17.4	71	NW	7	3.1	......	0	0	......	......	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.09	738.9	29.88	758.9	70	21.1	95	SW	5	2.2	......	2c	2s	W	W	0	0	Fair	James Stewart.
Goderich, Ontario	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	H. J. Strang, M. A.
Granton, Ontario	29.06	738.1	30.13	765.3	64	17.8	78	Calm	......	......	0	0	0	......	......	0	0	Clear.	James Grant.
*Halifax, N. S	29.72	754.9	29.85	758.2	60	15.6	82	W	7	3.1	......	8ck	0	......	......	0.022	0.56	Fair	F. Allison, M. A.
Hamilton, Ontario	29.79	756.7	30.15	765.8	64.7	18.2	64	NW	......	......	3	3c	0	N	......	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.61	752.1	29.63	752.6	54	12.2	87	SW	......	......	3	......	10	......	......	......	......	Raining	E. Weedon.
*Kingston, Ontario	29.77	756.1	30.10	764.5	69	20.6	54	N	2	0.9	......	0	0	......	......	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.72	754.9	29.76	755.9	53.0	11.7	......	N	10	4.5	......	......	10n	......	......	0.05	1.3	Showery	C. H. Rigby.
*Montreal, Quebec	29.82	757.4	30.02	762.5	68	20.0	60	W	5	2.2	......	0	0	......	......	0.07	1.8	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.42	747.3	30.09	764.3	60	20.0	90	W	8	3.6	......	0	0	......	......	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.38	746.2	30.10	764.5	68.7	20.4	67	W	......	......	1	0	0	......	......	0	0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.46	748.3	30.14	765.5	62	16.7	77	N	3	1.3	......	0	0	......	......	0	0	Clear	H. Morgan.
Port Hastings, N. S	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Peter Grant.
Port Stanley, Ontario	29.52	749.8	30.15	765.8	60	15.6	84	NW	1	0.4	......	0	0	......	......	0	0	Clear	M. Payne.
*Quebec, Quebec	29.66	753.4	29.97	761.2	61	16.1	85	W	......	......	1	Haze	Haze	......	......	0	0	Hazy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.62	752.3	30.07	763.8	58	14.4	62	NW	4	1.8	......	5ck	0	NE	......	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.88	758.9	29.93	760.2	63	17.2	77	NW	0	0	......	0	0	......	......	0	0	Clear	Dr. Gove.
St. John, N. B	29.74	755.4	29.90	759.4	64	17.8	70	NW	7	3.1	......	0	0	......	......	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.41	747.0	30.10	764.5	65	18.3	73	S	5	2.2	......	0	Haze	......	......	0	0	Hazy	K. Stewart.
Stayner, Ontario	29.31	744.5	30.06	763.5	72	22.2	51	W	5	2.2	......	0	Haze	......	......	0	0	Hazy.	R. J. Cole.
Stratford, Ontario	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	C. J. MacGregor, M. A.
*Sydney, C. B	29.72	754.9	29.75	755.6	55	12.8	84	NW	9	4.0	......	......	10n	......	N	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario	29.77	756.1	30.15	765.8	62	16.7	66	W	5	2.2	......	0	0	......	......	0	0	Clear	Magnetic Observatory.
Windsor, N. S	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	Prof. John E. Oram.
Woodstock, Ontario	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	......	......	......	......	58.0	14.4	88	SW	......	......	......	4c	4s	......	......	0.02	0.5	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,115 feet, or 339.1 meters, Stratford, 1,[illegible] ft. or [illegible] m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.85	758.2	30.07	763.8	67	19.4	64	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.48	748.8	30.11	764.8	62	16.7	77	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
Atlantic City, New Jersey	30.08	764 0	30.10	764.5	70	21.1	71	NW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.91	759.7	30.08	764.0	80	26.7	75	E	6	2.7	.....	5c	Haze	Calm	.....	0	0	Fair	
Baltimore, Maryland	30.07	763.8	30.11	764.8	72	22.2	58	N	4	1.8	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.08	764.0	30.11	764.8	70	21.1	61	NW	7	3.1	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Bismarck, Dakota	28.16	715.3	30.02	762.5	70	21.1	90	Calm	0	0	.....	.....	10s	.....	S	0.01	0.3	Cloudy	
BoiseCity, Idaho	27.14	689.3	30.02	762.5	66	18.9	68	S	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boston, Massachusetts	29.90	759.4	30.04	763.0	67.5	19.7	62	W	9	4.0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Brackettville, Texas	28.84	732.5	29.82	757.4	78	25.6	82	E	4	1.8	.....	2cs	2s	SE	S	0	0	Fair	
Breckenridge, Minnesota	28.96	735.6	29.92	760.0	64	17.8	100	S	9	4.0	.....	.....	10s	.....	S	0	0	Cloudy	
Brownsville, Texas	29.95	760.7	30.01	762.2	83	28.3	79	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.44	747.8	30.12	765.0	66	18.9	79	S	2	0.9	.....	2c	0	SW	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	81	27.2	55	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.81	756.9	30.05	763.3	67	19.4	69	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.72	754.9	30.10	764.5	73	22.8	63	NE	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	78	Calm	.....	.....	0	2ck	2s	SW	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	70	21.1	70	NE	.....	.....	1	0	0	.....	.....	0.16	4.1	Clear	
Camp Verde, Arizona	26.74	679.2	30.22	767.6	77	25.0	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.42	696.5	29.99	761.7	45	7.2	85	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.12	765.0	30.13	765.3	77	25.0	57	NE	14	6.3	.....	5k	0	NE	.....	0	0	Fair	
Cape Henry, Virginia	30.12	765.0	30.15	765.8	72	22.2	67	SW	3	1.3	.....	8cs	0	Calm	.....	0	0	Fair	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765.0	80	26.7	51	E	20	8.9	.....	5k	0	E	.....	0	0	Fair	
Cape May, New Jersey	30.10	764.5	30.12	765.0	74	23.3	72	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.21	741.9	29.88	758 9	79	26.1	82	SE	4	1.8	.....	.....	10ks	.....	SE	0	0	Cloudy	
Charleston, South Carolina	30.05	763.3	30.11	764 8	83	28.3	71	E	12	5.4	.....	8c;k	0	Calm;E	.....	0	0	Fair	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	58	14.4	94	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.41	747.0	30.07	763.8	71	21.7	62	E	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Cincinnati Ohio	29.44	747.8	30.07	763.8	71	21.7	58	NE	2	1.3	.....	10k	0	NW	.....	0	0	Cloudy	
Cleveland, Ohio	29.42	747.3	30.13	765.3	62	16.7	77	SE	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Columbus, Ohio	29.31	744.5	30.09	764.3	68	20.0	79	E	.....	.....	1	Haze	Haze	Calm	Calm	0	0	Hazy	
Concho, Texas	28.97	713.0	29.67	753.6	77	25.0	77	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	29.99	761.7	77	25.6	91	E	4	1.8	.....	2cs	0	Calm	.....	0.21	5.3	Clear	
Davenport, Iowa	29.47	748.5	30.09	764.3	70	21.1	61	SE	3	1.3	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Denison, Texas	29.20	741.7	29.96	761.0	76	24.4	91	SE	7	3.1	.....	.....	10s	.....	SE	0.61	15.5	Cloudy	
Denver, Colorado	24.88	631.9	30.10	764.5	65	18.3	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.46	748 3	30.11	764.8	65	18.3	68	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.36	694.9	29.52	749.8	73	22.8	90	S	4	1.8	.....	8c	2s	W	S	0.06	1.5	Cloudy	
Dubuque, Iowa	29.41	747.0	30.09	764.3	65	18.3	89	W	1	0.4	.....	.....	10n	.....	W	0.08	2.0	Light rain	
Duluth, Minnesota	29.34	745.2	29.99	761.7	69	20.6	75	SW	7	3.1	.....	10cs	0	NW	.....	0	0	Cloudy	
Eagle Pass, Texas	29.23	742.4	29.94	760.5	81	27.2	74	E	4	1.8	.....	8cs	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.83	757 7	29.90	759.4	67	19.4	69	NW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	
El Paso, Texas	.....	.....	.....	.....	77	25.0	65	W	5	2.2	.....	0	5s	.....	W	0 21	5.3	Fair	
Erie, Pennsylvania	29.41	747.0	30.10	764.5	69	20.6	70	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.40	746.7	30.03	762.7	68	20.0	74	Calm	0	0	.....	Sm'e	Sm'e	.....	.....	0	0	Smoky	
Florence, Arizona	.....	.....	.....	.....	78	25.6	57	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.22	640.6	30 18	766.6	72	22.2	67	W	6	2.7	.....	5k	0	E	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.47	748.5	29.98	761.5	79	26.1	66	SE	5	2.2	.....	5ck	2ks	Calm	SE	0	0	Fair	
Fort Griffin, Texas	28.70	729.0	29.91	759.7	76	24.4	82	SE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.81	757.2	78	25.6	86	SE	10	4.5	.....	0	2s	.....	Calm	0	0	Fair	
Galveston, Texas	29.97	761.2	30.04	762.5	84	28.9	83	SE	4	1.8	.....	5k	0	E	.....	0.08	2.0	Fair	
Grand Haven, Michigan	29.48	748.8	30.11	764.8	68	20.0	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.33	745.0	30.08	764.0	70	21.1	61	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianola, Texas	29.00	762.0	30.02	762.5	86	30.0	76	S	8	3.6	.....	2k	0	SW	.....	0.51	13.0	Fair	
Jacksboro, Texas	28.84	732.5	29.92	760.0	78	25.6	78	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.00	762.0	30.02	762.5	83	28.3	83	NW	4	1.8	.....	8k	0	W	.....	0.91	23.1	Cloudy	
Keokuk, Iowa	29.43	747.5	30.02	762.5	72	22.2	62	S	5	2.2	.....	1ck	4s	S	Calm	0	0	Fair	
Key West, Florida	30 00	762.0	30.03	762.7	85	29.4	72	NE	4	1.8	.....	6c;k	1ks	N; NE	NE	0	0	Fair	
Kittyhawk, North Carolina	30.12	765.0	30.14	765.5	74	23.3	72	NE	9	4.0	.....	2c	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	29.10	739.1	30.07	763.8	71	21.7	62	Calm	0	0	.....	3ck	0	NW	.....	0	0	Cloudy	
La Crosse, Wisconsin	29.36	745.7	30.08	764.0	66	18.9	84	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
La Mesilla, New Mexico	29.08	662.4	30.23	767.8	67	19.4	89	Calm	0	0	.....	2k	0	Calm	.....	0.01	0.3	Fair	
Laredo, Texas	29.54	750.3	29.85	758.4	80	26.7	78	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.91	632.7	.....	.....	59	15.0	82	S	2	0.9	.....	2c	0	S	.....	0	0	Fair	
Leavenworth, Kansas	29.14	740.1	29.94	760.5	75	23.9	68	S	5	2.2	.....	.....	10ks	.....	S	0	0	Cloudy	
Los Angeles, California	29.90	751.8	29.93	760.2	59	15.0	88	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.53	750.0	30.08	764.0	68	20.0	65	N	4	1.8	.....	8k	Haze	NW	Calm	0	0	Cloudy	
Lynchburg, Virginia	29.44	747.8	30.11	764.8	67	19.4	74	SE	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.30	744.2	29.97	761.2	70	21.1	70	W	12	5.4	.....	2c	0	Calm	.....	0	0	Fair	
Mason, Texas	28.32	719.3	29.99	761.7	79	26.1	86	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Memphis, Tennessee	29.76	755.9	30.07	763.8	70	21.1	71	NE	3	1.3	.....	5c	Sm'e	SW	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.39	746.5	30.09	764.3	69	20.6	70	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	80	26.7	87	NW	3	1.3	.....	8c	0	Calm	.....	Inap.	Inap.	Fair	
Montgomery, Alabama	29.79	756.7	30.02	762.5	77	25.0	69	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Morgantown, West Virginia	29.09	738.9	30.12	765.0	66	18.9	69	Calm	0	0	.....	1c	Sm'e	W	Calm	0	0	Clear	
Mt. Washington, N. H.	23.88	606.5	30.24	768.1	42	5.6	91	NW	36	16.1	.....	0	Haze	.....	Calm	0.15	3.8	Clear	
Nashville, Tennessee	29.55	750.6	30.06	763.5	71	21.7	49	N	1	0.4	.....	2cs	Sm'e	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.97	761.2	30.09	764.3	72	22.2	62	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.03	762.7	30.08	764.0	72	22.2	67	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Light haze	
New Orleans, Louisiana	29.97	761.2	30.03	762.7	83	28.3	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	30.02	762.5	30.06	763.5	69	20.6	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.94	760.5	30.11	764.8	70	21.1	52	NW	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.08	764.0	30.14	765.5	75	23.9	56	W	3	1.3	.....	5cs	Sm'e	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.08	687.8	29.51	749.5	71	21.7	90	SE	4	1.8	.....	.....	10s	.....	SE	0.18	4.6	Cloudy	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	48	8.9	92	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.85	732.8	29.87	758.7	73	22.8	76	SE	4	1.8	.....	5c	5s	Calm	SE	0.02	0.5	Cloudy	
Oswego, New York	29.80	756.9	30.11	764.8	67	19.4	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	29.12	739.6	29.92	760.0	64	17.8	94	S	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Philadelphia, Pennsylvania	30.08	764.0	30.13	765.3	71	21.7	49	NW	13	5.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.72	729.5	.....	.....	84	28.9	47	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.08	459.2	30.29	769.4	38	3.3	63	NE	8	3.6	.....	2k	0	NE	.....	0.90	22.9	Clear	
Pioche, Nevada	24.15	613.4	29.92	760.0	61	15.6	71	S	3	1.3	.....	2k	0	S	.....	0.10	2.5	Fair	
Pittsburg, Pennsylvania	29.34	745.0	30.13	765.3	59	15.0	88	NW	2	0.9	.....	2c	Fog	Calm	Calm	0	0	Fair	
Port Huron, Michigan	29.45	748 0	30.10	764.5	55	18.3	63	SW	2	0.9	.....	Haze	Sm'e	.....	Calm	0	0	Smoky	
Portland, Maine	29.94	760.5	29.99	761.7	66	18.9	69	NW	8	3.6	.....	Haze	Haze	.....	.....	0.14	3.6	Hazy	
Portland, Oregon	30.04	763 0	30.15	765.8	54	12.2	87	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.85	631.2	30.21	767.3	65	18.3	26	Calm			0	0	0			0	0	Clear	
Punta Rassa, Florida	30.03	762.7	30.05	763.3	85	29.4	79	Calm	0	0		5ck;k	0	W		0	0	Fair	
Red Bluff, California	29.56	750.8	29.91	759.7	67	19.4	59	SE	2	0.9		0	Haze	Calm	Calm	0	0	Clear	
Rochester, New York	29.60	749.3	30.10	764.6	65	18.3	63	W	3	1.3		5c	Haze	Calm	Calm	0	0	Fair	
Roseburg, Oregon	29.45	748.0	30.13	765.3	50.7	10.3	93	Calm	0	0		2ck	8s	N	N	0	0	Cloudy	
Sacramento, California	29.81	757.2	29.90	759.4	58	14.4	82	S	5	2.2		0	0			0	0	Clear	
St. Louis, Missouri	29.53	750.0	30.08	764.0	73	22.8	55	SE	2	0.9		0	Sm'e			0	0	Clear	
St. Marks, Florida	30.00	762.0	30.01	762.2	82	27.8	91	Calm	0	0		1k	Haze	Calm		0	0	Hazy	
St. Paul, Minnesota	29.18	741.2	29.99	761.7	63	17.2	88	SE	5	2.2			10n		Calm	Inap.	Inap.	Light rain	
Salt Lake City, Utah	25.73	653.5	30.06	763.5	63	17.2	67	NE	4	1.8		0	0			0.71	18.0	Clear	
San Antonio, Texas	29.31	744.5	29.86	758.4	78	25.6	91	SE	2	0.9		0	8ks		SE	0.10	2.5	Cloudy	
San Diego, California	29.90	759.4	29.97	761.2	62	16.7	88	N	2	0.9			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.48	748.8	30.13	765.3	66	18.9	69	SW	4	1.8		0	Haze		Calm	0	0	Clear	
Sandy Hook, New Jersey	30.07	763.8	30.10	764.5	73	22.8	63	NW	6	2.7		0	Haze		Calm	Inap.	Inap.	Hazy	
San Francisco, California	29.92	760.0	29.98	761.5	55	12.8	87	S	4	1.8			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	60	15.6	71	NE	3	1.3		0	8s		Calm	0.02	0.5	Fair	
Savannah, Georgia	29.95	760.7	30.04	763.0	83	28.3	83	E	10	4.5		5cs	1ks	NW	Calm	0	0	Fair	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	79	26.1	86	E	1	0.4		0	8s		S	2.56	65.0	Fair	
Silver City, New Mexico	24.36	618.7	30.32	770.1	65	18.3	78	Calm	0	0		0	0			0.01	0.3	Clear	
Smithville, North Carolina	30.09	764.3	30.12	765.0	78	25.6	69	NE	6	2.7		2ck	Haze	NW	Calm	0	0	Fair	
Springfield, Massachusetts	29.88	758.9	30.01	762.2	68	20.0	70	Calm	0	0		0	0			0	0	Clear	
Stockton, Texas	29.93	684.0	29.93	760.2	74	23.3	39	S	8	3.6		8k	0	S		0	0	Cloudy	
Thatcher's Island, Mass	29.93	760.2	30.03	762.7	68	20.0	70	NW	4	1.8		0	0			0.02	0.5	Clear	
Toledo, Ohio	29.45	748.0	30.10	764.5	71	21.7	62	Calm	0	0		0	Haze		Calm	0	0	Hazy	
Tucson, Arizona	27.42	696.5	29.97	761.2	84	28.9	68	SW			1	2k	0	Calm		0.04	1.0	Fair	
Tybee Island, Georgia	30.00	762.0	30.03	762.7	83	28.3	83	E	17	7.6		2k	8ks	W	E	0	0	Cloudy	
Umatilla, Oregon	29.59	751.6			69	20.6	39	W	8	3.6		2k	Sm'e	W	W	0	0	Smoky	
Vicksburg, Mississippi	29.80	756.9	30.05	763.3	79	26.1	66	E	3	1.3		2c	0	Calm		0	0	Clear	
Virginia City, Montana	24.36	618.7	29.84	757.9	63	17.2	67	SE	1	0.4			10s		Calm	0.25	6.3	Cloudy	
Visalia, California	29.57	751.1	29.93	760.2	66	18.9	54	SW	4	1.8		0	0			0	0	Clear	
Washington, D. C.	30.02	762.5	30.13	765.3	68	20.0	74	NW	5	2.2		Haze	Haze			0	0	Hazy	
Wickenburg, Arizona					71	21.7	53	S			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.09	764.7	30.11	764.8	74	23.3	71	NE	5	2.2		2c	0	Calm		0	0	Fair	
Winnemucca, Nevada	25.68	652.3	30.04	763.0	54	12.2	80	S	3	1.3		2k	0	Calm		0.50	12.7	Fair	
Wood's Holl, Mass.	30.01	762.2	30.06	763.5	72	22.2	71	W	3	1.3		Haze	0	Calm		0	0	Clear	
Yankton, Dakota	28.68	728.5	29.92	760.0	69	20.6	92	SE	3	1.3		5ck	8s	W	SE	0.19	4.8	Clearing	
Yuma, Arizona	29.02	737.3	29.78	756.4	79	26.1	46	Calm	0	0		0	0			0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska																			
York Factory, B. A.	29.78	756.4	29.83	757.7	51.0	10.6	79	NE	9	4.0		0	0			0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.00	762.0	30.02	762.5	85	29.4	79	E	2.4	1.1		8c	0	E		0	0	Fair	Chas. Hasselbrink.
St. Thomas																			James Gall.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	82	27.8	91	Calm	0	0		2ck	2s	Calm	E	0.16	4.1		F. M. Everett.
Navassa, W. I.	29.86	758.4	29.94	760.5	84	28.9		E	11.7	5.2						0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.10	764.5	30.10	764.5	81	27.2	87	NE	2	0.9		0	5k			0.090	2.29	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.																			Thomas Herran.
Medellin, Colombia, S. A.	25.24	641.1			68.5	20.3	81	Calm	0	0		1cs	3ks			0.07	1.8		

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m., Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,838 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,922 (?) ft. or 1,498.3 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
NavyYard,MareIsland,Cal.	29.69	759.2	56	13.3	54.5	12.5	90	SW	23	10.3	....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Navy Yard, Pensacola, Fla.	30.18	766.6	82	27.8	82	27.8	85	SW	1	0.4	....	.....	5	.....	SW	0	0	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	29.97	761.2	70	21.1	67	19.4	64	W	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	30.00*	762.0*	78.4	25.8	77.0	25.3	88	SW	.....	.....	3	.....	10n;k	.....	W	0.10	2.5	.....	.....	Raining.....	
Adams, Apia, Samoan Islands	29.97	761.2	79	26.1	78	25.6	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	29.79‡	756.7‡	.....	.....	69	20.6	95	WSW	.....	.....	0–1	.....	9	.....	SW	.....	.....	.....	.....	Rainy.....	
Ashuelot, Nagasaki, Japan	30.03	762.7	82	27.8	81	27.2	96	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Alaska, S. 15° 02′, W. 38° 31′	30.38	771.6	77	25.0	75	23.9	68	SSE	.....	.....	4	.....	7	.....	S	0.12	3.0	Mod'ate	SE	D. clouds.....	
Canonicus, New Orleans, La	30.01	762.2	58	14.4	84	28.9	83	W	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado, New York, N. Y.	30.11‡	764.8‡	.....	.....	71	21.7	57	NW	7	3.1	.....	.....	8	.....	NW	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	29.75‡	755.6‡	.....	.....	70	21.1	85	WNW	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Cloudy.....	
Despatch, Prince's Islands, Sea of Marmora	29.78‡	756.4‡	.....	.....	76	24.4	64	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va.	30.27	768.8	75	23.9	72	22.2	62	NW	6	2.7	.....	.....	8	.....	W	0	0	.....	.....	Misty.....	
Gettysburg N. 39° 36′, E. 13° 47′	29.80‡	756.9‡	.....	.....	88	31.1	100	S	.....	.....	1	.....	2	.....	Calm	0	0	None	.....	Hazy.....	
Hartford, Rio de Janeiro, Brazil	30.28	769.1	.....	.....	65	18.3	78	N	1.2	0.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	29.72	754.9	81	27.2	80	26.7	78	ENE	.....	.....	3	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Buffalo, N. Y.	29.78	756.4	73	22.8	68	20.0	74	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.98‡	761.5‡	.....	.....	77	25.0	100	S	.....	.....	3–4	.....	10	.....	S	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.28†	769.1†	.....	.....	81	27.2	74	ENE	12	5.4	.....	.....	2	.....	E	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	61	16.1	94	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.76	755.9	87	30.6	80	26.7	96	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	30.01	762.2	61	16.1	56	13.3	94	S	21	9.4	.....	.....	10	.....	S	.....	.....	.....	.....	Overcast.....	
Plymouth. New York, N. Y.	30.10‡	764.5‡	.....	.....	69	20.6	65	NW	.....	.....	2–3	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger. Hong-Kong, China	29.98*	761.5*	.....	.....	85	29.4	79	SSW	.....	.....	4	.....	1	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.98	761.5	79	26.1	79	26.1	95	ESE	.....	.....	1	.....	4	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	30.12‡	765.0‡	.....	.....	70	21.1	75	NNW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	30.03	762.7	71	21.7	71	21.7	75	N	2	0.9	.....	.....	5	.....	NNW	0	0	.....	.....	Misty.....	
Supply, Havre, France	29.84	757.9	71	21.7	71	21.7	80	WNW	.....	.....	0–1	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass.	30.03‡	762.7‡	.....	.....	68	20.0	90	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Trenton, N. 36° 07′, W. 6° 19′	29.96‡	761.0‡	.....	.....	75	23.9	95	NNW	.....	.....	3–4	.....	2	.....	N; W	0	0	.....	.....	Fair.....	
Tuscarora, Acapulco, Mexico	29.78	756.4	81	27.2	82	27.8	87	N	.....	.....	0–5	.....	8	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia, Beirut, Syria	29.60‡	751.8‡	.....	.....	85	29.4	76	W	.....	.....	2	.....	2	.....	W	.....	.....	Long	W	Clear.....	
Wabash, Boston, Mass.	30.00‡	762.0‡	.....	.....	71	21.7	66	WNW	6	2.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Wyoming, N. 45° 52′, W. 48° 55′	29.88†	758.9†	.....	.....	52	11.1	100	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Long	WSW	Foggy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 29° 18', E. 128° 47'		30.02*	762.5*	84	28.9	100	SE			3		2		SE	0	Light	SE	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		30.14*	765.5*				E			2		4		E				Clear	Capt. Seabury.
S. S. City of Peking, N. 37° 02', W. 140° 42'		30.42†	772.7†	64	17.8	78	NNW	18	8.0			9		NNW	0	Small	N	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 28° 8', W. 115° 32'		29.96†	761.0†	67	19.4	84	NW			4		8		NW	0	Very small	NW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

S. S. Alaska																			
S. S. China, N. 29° 18', E. 128° 47'		30.02*	762.5*	84	28.9	100	SE			3		2		SE	0	Light	SE	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		30.14*	765.5*				E			2		4		E				Clear	Capt. Seabury.
S. S. City of Peking, N. 37° 02', W. 140° 42'		30.42†	772.7†	64	17.8	78	NNW	18	8.0			9		NNW	0	Small	N	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 28° 8', W. 115° 32'		29.96†	761.0†	67	19.4	84	NW			4		8		NW	0	Very small	NW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 46° 30', W. 44° 52'		29.86*	758.4*	52	11.1	93	SW			4		Fog				Heavy	SW	Foggy	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 44° 44', W. 44° 12'		30.06†	763.5†	66	18.9	68	Var.			2		Fog			0	Mod'ate	SW	Foggy	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 44° 44' W. 151° 42'		30.42*	772.7*	60	15.6	88	S			4		8			0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.27*	768.8*	74	23.3	90	W			4		8		W	Light			Partly cl'dy	Captain Sargent.
S. S. Ohio. Liverpool		29.65	753.1	72	22.2	90	ESE			2		8		ESE	Light			Dull	Captain Morrison.
S. S. Pennsylvania, N. 44° 50′, W. 50° 05′		29.91†	759.7†	59	15.0	70	SSW			4		6?		SW	0.50 in or 12.7 mm.	Large	SW	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 43° 34′, W. 52° 09′		29.92*	760.0*				SW	8	3.6			8		W		Heavy	SW	Fine	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, N. 65° 30′, W. 59° 15′		29.69*	754.1*	36.0	2.2	96	NNE			2		10s			0			Foggy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 25, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:20 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	29.99	761.8	68.4	20.2	84	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Dr. Ollive.
Nemours	.....	.....	29.95	760.7	66.9	30.5	53	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Michel.
Algiers	.....	.....	29.85	758.3	82 8	28.2	76	NE	.....	.....	3	.....	8	.....	.....	0	0	Very cloudy	Tourrliere.
La Calle	.....	.....	29.85	758 3	81 0	27.2	77	NNE	.....	.....	3	.....	7	.....	.....	0	0	Very cloudy	Foufrede.
Tunis	.....	.....	29.87	758.7	94.1	34.5	.....	E	.....	.....	5	.....	10	.....	.....	0.114	2.9	Covered	Jacques.
Sfax	.....	.....	29.90	759.5	89.6	32.0	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.00	762 0	86.0	30.0	24	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.89	759.2	93.7	34.3	15	W	.....	.....	7	.....	8	.....	.....	Inap.	Inap.	Very cloudy	Watrin.
Geriville	.....	.....	29.95	760.8	92.1	33 4	67	N	.....	.....	7	.....	7	.....	.....	0	0	Very cloudy	Brugnlaux.
Laghouat	.....	.....	29.98	761.5	99.7	37.6	16	W	.....	.....	6	.....	0	.....	.....	0.039	1.0	Clear	Bertrand.
Biskra	.....	.....	29.85	758.3	104.0	40.0	.....	ESE	.....	.....	5	.....	4	.....	.....	0	0	Cloudy	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.23	742.5	29.76	755.8	74.7	23.7	64	NE	.....	.....	2	.....	6	.....	.....	0.421	10.7	.....	Prof. Ivan Stozu.
Cracow	29.08	738.5	29.81	757.1	67.3	19.6	60	E	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Dr. Karlinski.
Eperies	28.80	731.6	29.63	752.6	78.1	25.6	70	S	.....	.....	2	.....	6cs;s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.57	725.6	29.76	756.0	70.9	21.6	86	SE	.....	.....	3	.....	8	.....	.....	0.126	3.20	.....	Andreas Rospini.
Hermannstadt	28.30	718.8	29.65	753.0	75.2	24.0	59	NW	.....	.....	3	.....	3	.....	.....	0.591	15.00	.....	Prof. Reissenberg
Kremsmünster	28.44	722.3	29.71	754.7	72.7	22.6	72	NE	.....	.....	2	.....	5	.....	.....	0.268	6.8	.....	Prof. C. Wagner
Lemberg	28.82	731.9	29.77	756.2	64.8	18.2	45	NE	.....	.....	1	.....	4	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.63	752.5	29.78	756.3	87.3	30.7	56	SSE	.....	.....	2	.....	5ck	.....	.....	0.102	2.6	.....	I.R.Hydrographic Office
Szathmar	29.30	744.2	29.74	755.3	80.8	27.1	32	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.65	753.1	29.75	755.7	82.4	28.0	54	NW	.....	.....	1	.....	6	.....	.....	1.260	32.0	Thunder-storm	P. Busin.
Vienna	29.10	739.2	29.78	756.4	75.6	24.2	39	Calm	.....	.....	0	.....	4	.....	.....	0.185	4.7	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.5 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Epories the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.35	720.2	29.81	757.2	68.2	20.1	59	WSW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.55	750.6	29.74	755.4	70.7	21.5	58	WSW	.....	.....	3	7	2	S	SW	0	0	.....	Royal Observatory
Furnes	29.74	755.5	29.77	756.1	71.2	21.8	59	SW	.....	.....	5	.....	7	.....	.....	0.004	0.1	.....	M. E. de Cae.
Maeseyck	29.66	753.3	29.78	756.5	72.7	22.6	68	WSW	.....	.....	4	.....	9	.....	.....	0.142	3.6	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the last 24 hours. Inches.	Rain-fall or melted snow in the last 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.59	751.6	29.69	754.1	61.9	16.6	.....	SE	10	4.5	.....	.....	4	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	29.65	753.1	29.67	753.6	63	17.2	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	Hazy	George Carrick.
Armagh, Observatory	.....	.....	29.75	755.6	63.0	17.2	.....	NW	5	2.2	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.68	753.9	58.8	14.9	.....	WNW	14	6.3	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.78	756.4	66.3	19.1	.....	WNW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.26	743 2	29.65	753.1	65.4	18.6	.....	SE	.....	.....	1	.....	2	.....	.....	0.88	22.4	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A. H. Todd. [H.C.
Cambridge, Observatory	.....	.....	29.68	753.9	67.0	19.4	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	John McLaren.
Cardington	.....	.....	29.73	755.1	63.0	17.2	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Lt. W. G. Morris, R. E.
Chatham, School M. E	29.61	752.1	29.74	755.4	61.2	16.2	.....	Calm	.....	.....	0	.....	8	.....	.....	Blank	Blank	D. clouds	Alexander Watt.
Dartmoor	28 30	718.8	29.73	755.1	58.0	14.4	.....	N	.....	.....	4	.....	6	.....	.....	.....	.....	Showery	J. Mac Gowan.
Donaghadee	29.69	754.1	29.71	754.6	57	13.9	.....	NNW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	J. Costello.
Dover	29.72	754.9	29.74	755.4	67	19.4	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	Thomas Mackereth.
Eccles, (near Manchester)	.....	.....	29.64	752.8	61.8	16.6	.....	NNW	0.8	0.4	.....	.....	10	.....	.....	.....	.....	Thunder-storm	The Staff.
Falmouth, Observatory	29.64	752 8	29.86	758.4	66.4	19.1	.....	WNW	.....	.....	3	.....	5?	.....	.....	.....	.....	Overcast?	Pvt. G. Salmon, A.H.C.
Fort Napier, (Natal)	27.66	702 6	29.96	761.0	68.3	20.2	.....	E	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	
Free Town, (Sierra Leone)	29.79	756.7	30.02	762.5	83	28.3	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Galway, Queen's College	.....	.....	29.75	755.6	63	17.2	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Corpl. Wm. Allen, A.H.C.
Gibraltar, (Mediterranean)	29.86	758.4	29.91	759.7	80.7	27.1	.....	W	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	P. G. Maclean.
Glasgow, Observatory	29.46	748.3	29.67	753.6	66.2	19.0	.....	N	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy	G. T. Watson.
Great Yarmouth	29.67	753.6	29.68	753.9	66	18.9	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	The Staff, for G. B. Airy.
Greenwich, Royal Obs'y	29.56	750.8	29.73	755.1	61.2	16.2	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	Dr. S. E. Hoskins, F.R.S.
Guernsey	29.62	752.3	29.84	757.9	65.5	18.6	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	M. P. Moyle.
Helston	.....	.....	29.87	758.7	69	20.6	.....	NW	.....	.....	2	.....	2c	.....	.....	0.12	3.0	Fine	John Tilston.
Holyhead	29.69	754.1	29.74	755.4	56	13.3	.....	WNW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	J. Fisher.
Jersey	29.69	751.8	29.89	759.2	64.7	18.2	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds	The Staff.
Kew, Observatory	.....	.....	29.74	755 4	64.0	17.8	.....	W	7	3.1	.....	.....	10k	.....	.....	.....	.....	Hazy	George Mitchell.
Kingstown	29.73	755.1	29.76	755.9	64	17.8	.....	WNW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Leicester, Museum	.....	.....	29.69	754.1	60 2	15.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling	Sgt. Hewitt, A. H. C.
Malta, (Mediterranean)	29.77	756.1	29.84	757.9	91	32.8	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	W. D. Penny.
Nairn	29.54	750.3	29.63	752.6	71	21.7	.....	WSW	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	C. S. Duncombe.
Nassau, (Bahamas)	.....	.....	29.93	760.2	82.8	28.2	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	E. J. Lowe, F. R. S.
Nottingham, Observatory	29.52	749.8	29.71	754.6	63.1	17.3	.....	SSE	.....	.....	2	.....	10n	.....	S	0.238	6.04	Overcast	Rev. Stephen Whitty.
Oscott, St. Mary's College	29.18	741.2	29.69	754.1	59.2	15.1	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	H. E. Bellamy.
Oxford, Radcliffe Obs'y	.....	.....	29.74	755.4	62	16.7	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	John Merrifield.
Plymouth	29.75	755.6	29.82	757.4	68.6	20.3	.....	NW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	W. Kennedy.
Roche's Point	29.78	756.4	29.82	757.4	60	15.6	.....	WSW	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy	John C. Walker.
Saint Ann's Head	29.69	754.1	29.80	756.9	61	16.1	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL.D.
Sandwick Manse, (Orkneys)	.....	.....	29.68	753.9	60.5	15.8	.....	SE	21	9.4	.....	.....	8	.....	.....	.....	.....	D. clouds	Sergt. W. H. Lyne.
Scutari, Cemetery, (Turkey	.....	.....	29.69	754.1	83.8	28.8	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	W. F. Cooper.
Sheffield	29.41	747.0	29.68	753.9	64.4	18.0	.....	Calm	.....	.....	0	.....	9	.....	.....	0.02	0.5	Overcast	C. Edith Redford.
Silloth Rectory	29.64	752.8	29.67	753.6	66.0	18.9	92	Calm	.....	.....	0	.....	8	.....	.....	0.300	7.62	D. clouds	W.C. Carlisle for Rev. S. J. Perry
Stonyhurst, Observatory	29 28	743.7	29.68	753.9	67.5	19.7	.....	NNE	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	John Sutherland.
Storloway, Lewis C., (Hebr.)	29.62	752.3	29.65	753.1	59	15.0	.....	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	Raining	Rev. C. H. Griffith, F.M.S
Stratfield Turgiss	29.54	750.3	29.75	755.6	61.8	16.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Trotter.
Thurso	.....	.....	29.65	753.1	65	18.3	.....	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Truro, Royal Institution	.....	.....	29.90	759.4	72	22.2	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	Robert Burnet.
Valencia, Observatory	.....	.....	29.79	756.7	61.5	16.4	.....	S	16	7.2	.....	.....	9	.....	.....	.....	.....	D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.52	749.8	63.0	17.2	82	NW	.....	.....	2	.....	3k	.....	.....	0.02	0.5	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.12	764 9	71.7	22.1	62	ESE	22.0	9.8	.....	9	1	NNW	ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.59	751.6	29.68	753.9	56.4	13.6	84	N	6	2.7	.....	.....	7	.....	.....	0	0	.....	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclaus.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670,6 m.

MARINE SERIES. VESSELS.	Sea or Swell. Height scale 0–9	Sea or Swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 56° 30′ W. 48° 35′	3	.....	D. clouds	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 47° 35′, W. 48° 55′	4	S	Foggy	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.23	666.2			68.4	20.2	91	SE			1	1c	8ks			0.5	13.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.86	758.4	29.91	759.6	65.7	18.7	46	S			2		1						
Faröe	29.74	755.4	29.76	755.9	71.4	21.9	58	E			4		0						
Godthaab, (Greenland)	29.37	746.1	29.42	747.2	41.0	5.0		S			8		10						Raining
Stykkisholm, (Iceland)	29.50	749.3	29.54	750.4	52.2	11.2	83	S			6		8						Raining
Thorshavn, (Faröe)	29.61	752.1	29.65	753.0	52.9	11.6	96	Calm			0		10						Foggy
Vestervig	29.62	752.3	29.79	756.6	71.6	22.0	39	SE			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.89	746.4	29.94	760.4	71.6	22	54	W			2		8			0.28	7.	Very cloudy	Collignon, Director.
Amiens, Normal School	29.69	754.0	29.79	756.7	72.0	22.2	64	SW			3		2		N	1.780	45.2	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.73	755.1	29.81	757.1	82.8	28.2	43	N			3		2		WNW	0	0	Partly cl'dy	Mr. Giraud, Director.
Bar-sur-Seine	29.31	744.4	29.85	758.3	71.6	22.0	43	W			1		8kn		W	0.016	0.4	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.56	750.7	29.83	757.6	71.4	21.9	43	W			4		8		W	0.04	1.	Very cloudy	Normal School.
Besançon	29.04	737.6	29.91	759.8	65.5	18.6	76	SSW			2		10			1.004	25.5	Covered	Normal School.
Bourg-en-Bresse	29.08	738.6	30.04	763.2	64.6	18.1	72	N			0		10m		N	0.16	4.	Raining	Normal School.
Bourges, Normal School	29.24	742.8	29.84	757.8	70.9	21.6	48	SSE			4		k		SSE	0.20	5.		A. Wagner, Director.
Brest, Naval Observatory	29.62	752.4	29.87	758.6	73.8	23.2	60	WNW			3		8		WNW	0.138	3.50		The Staff.
Carcassonne, Normal School	29.61	752.1	30.01	762.3	68.0	20	55	W			4		2		W	0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.26	743.3	29.81	757.1	71.1	21.7	77	WNW			2		8		ESE	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.5	29.89	759.3	68.7	20.4	53	Calm			0		8clk			0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.57	725.6	29.88	759.0	66.6	19.2	59	NW			2		10		W	0.059	1.5	Covered	Alluard, Director.
Commercy, Normal School	29.00	736.6	29.85	758.2	66.2	19	66	W			4		5		E	0.051	1.3	Light rain	Dr. Coulet, Director.
Commune de Gréasque*	28.74	730.0	29.88	759.0	82.0	27.8	42	NW			6		2		NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.71	754.6	29.91	759.8	71.6	22.0	59	W			2		8		W	0.217	5.5	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.59	751.5	29.89	759.1	68.5	20.3	61	W			4		8		W	0.089	2.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.9	29.86	758.4	66.0	18.9	71	SSE			2		10		SSW	0.35	9.	Covered	Baudry, Director.
Lorient, Naval Observatory	29.84	757.8	29.94	760.4	70.5	21.4	57	W			3		8		NW	0.079	2.0	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.24	742.8	29.90	759.4	75.7	24.3	46				2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	28.84	732.4	29.85	758.1	67.1	19.5	71	NNW			4		5		SSW	0	0	Cloudy	Normal School
Nismes, Normal School	29.60	751.8	29.79	756.6	81.3	27.4	40	N			1		2		W	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.52	749.9	29.80	759.3	73.4	23	62	S			2		5		S	0.020	0.5	Cloudy	Bernard, Director.
Paris, Observatory	29.69	754.7	29.83	757.6	69.1	20.6	51	WNW			1		9		WNW	0.072	1.82	Almost cov'd	National Observatory.
Privas	28.80	731.5	29.82	757.4	73.4	23	27	S			2		5		S	0	0	Cloudy	Normal School
Puy de Dome (Summit)																			Allnard, Director.
Rochefort, Naval Obs'y	29.93	760.3	29.97	761.1	72.0	22.2	49	W			3		8		W	0.04	1.	¾ covered	Lt. Decante, Director.
Rouen, Normal School	29.75	755.7	29.84	757.9	66.9	19.4	66	WSW			2		5		W	0.114	2.9	Cloudy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.93	734.9	29.98	761.6	68.0	20	72	WSW			4		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.21	741.9	29.91	759.6	66.2	19	85	NW			4		10		SW	0.016	0.4	Covered	M. Gausserand, Director.
Sub-Series.																			
Fort de France, Martinique			29.95	760.6	77.7	25.4										1.77	45.		L'Abbé Marchési.
Lyons																			L. Jays.
Marseilles, Observatory																			The Staff.
Mont-Louis			29.78	756.5	76.8	24.9	48	W			4-6	8				0	0		M. Cave.
Nice	24.89	632.2	30.21	767.2	55.4	13.0	57	ESE	18.6	8.33		4			SW	1.437	36.5		Dr. A. Niepce.
Paris, Montsouris Obs'y			29.70	754.4	78.4	25.8	70	ESE			2	4				0	0		Marié Davy, Director
Perpignan	29.56	750.7	29.83	757.7	68.0	20.0	54	W			2	9			W	0.020	0.5		Dr. Fines.
Pic du Midi, (Summit,) H. P.			29.94	760.4	74.8	23.8	47	NW	18.6	8.33		9			NW	0.118	3.0		M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.55	572.7			39.9	4.4		W			2	10				0.165	4.2	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.67	753.6	29.84	757.8	67.5	19.7	68	WNW			1	10			W; WSW	0	0		E. Renou.
Toulouse, Observatory	29.31	744.4	30.03	762.8	69.3	20.7	54	WSW			3	8				0	0		The Staff.
Tours	29.69	754.0	29.88	759.0	71.8	22.1	49	W			1	8			W	0.063	1.6		C. Marquet.
Versailles, (near Paris)			29.84	757.9	73.0	22.8	37	NW			2	8				0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.84	758.0	29.87	758.6	82.4	28.0	95	N	3.6	1.6		0				0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grésque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.89	733.7	29.72	754.9	79.3	26.3	66	W			3		6	W		0.4	1.	Thunder-storm	Prof. Dr. Hoh.
Berlin	29.69	754.1	29.85	758.3	70.9	21.6	32	SE			2		0			0	0		Prof. Arndt.
Breslau	29.37	746.1	29.90	759.5	67.8	19.9	42	ENE			3		1			0	0		Royal University Obs'y
Carlsruhe	29.34	745.2	29.63	752.6	72.3	22.4	71	SW			3		9			0	0		Albert Senz.
Cassel	29.13	740.0	29.73	755.2			57	S			1		7	SW		0.038	0.96		Dr. H. Möhl.
Crefeld	29.57	751.0	29.73	755.1	75.7	24.3	58	N			4		7			0	0		Director Lose.
Emden	29.58	751.2	29.61	752.2	75.2	24.0	67	SE			2.5		9			0.709	18.0	Lightning	Prof. Prestel.
Frankfort on the Main	29.43	747.6	29.78	756.3	77.4	25.2		WSW			1		8			0.508	12.9		Physical Society.
Friedrichshafen	28.35	720.2	29.72	755.0	71.6	22.0	73	SW					7	SW		1.953	49.6	Heavy rain	M. Wilhelm.
Hamburg	29.72	755.0	29.79	756.7	71.6	22.0	53	SE			5		8k			0	0	Fair	Captain F. Hegemann.
Kiel	29.78	756.3	29.79	756.7	71.2	21.8	43	ESE			3		1			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.61	757.2	29.89	759.3	61.7	16.5	49	N			4		4			0.031	0.8		Prof. E Luther.
Köslin			29.96	761.0	64.0	17.8		NE			2		0			0	0		H. Müller.
Leipsic, Observatory	29.40	746.8	29.80	757.0	75.9	24.4	28	E			4		2			0	0		Prof. Bruhns.
Memel, Naval School								N			6		2k						Reinbrecht and Skalweit.
Neufahrwasser	29.94	760.5	29.96	760.9	61.2	16.2	61	NNE			4		7			0.055	1.4		A. Lothes.
Posen	29.66	753.4	29.95	760.6	66 6	19.2	35	WSW			5		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.30	744.2	29.83	757.7	67.5	19.7	73	W			3		10	SW		0.905	22.98		Astronomical Observatory.
Stuttgart	28.86	733.0	29.76	756.0	68.9	20.5	86	NW			1		10			1.110	28.2	Raining	Prof. Schoder.
Treves, (Trier)	29.15	740.4	29.67	753.5	74.5	23.6	49	W			5		9			0.062	1.58		Prof. Flesch.
Weissenburg, (Bavaria)	28.31	719.0	29.72	755.0	73.2	22.9	64	WNW	2	1			9ck		W	0.020	0.5		Dr. Von Bebber.
Wustrow, Naval School	29.88	758.9	29.92	759.9	70.0	21.1	41	SE			3		0			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.37	746.0	29.74	755.3	94.6	34.8		SW			1.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.38	746.2	29.43	747.4	87.7	30.9	71	NW	25?	11.2?			4			0.45	11.4	D. clouds	
Deesa	29.07	738.4	29.54	750.3	85.6	29.8	78	SSE					10		S	0	0	Overcast	
Bombay	29.61	752.1	29.65	753.0	82.2	27.9	91	WSW	26	11.6			10		SW	1.18	30.0	Overcast	
Poona	27.68	703.0	29.68	753.8	74.9	23.8	87	W					10		W	0.54	13.7	Raining	
Lahore	28.66	728.0	29.36	745 8	100.8	38.2	45	NNE	2.6	1.2			0			0	0	Blue sky	
Belgaum	27.21	691.2	29.76	755.8	72.6	22.6	92	WNW	11	4.9			9		WNW	0.38	9.6	Showery	
Bangalore																			
Roorkee	28.56	725.4	29.42	747.3	93.2	34.0	61	SE	3.4	1.5			2			0	0		
Agra	28.89	733.9	29.48	747.6	97.6	36.4	48	E	1	0.4						0	0		
Trichinopoly																			
Nagpur	28.50	723.8	29.53	750.0	80.6	27.0	87	NW	6.6	3.0			10		SE	0.63	16.0	Overcast	
Madras																			
Lucknow	29.10	739.0	29.45	748.1	95.8	35.4	50	NE	4.9	2.2			8		NE	0	0	D. clouds	
Allahabad	29.13	739.8	29.42	747.4	95.2	35.1	62	NE	6.4	2.9			4		E	0	0	D. clouds	
Patna	29.33	745.0	29.51	749.5	85.0	29.4	83	E	3.2	1.4			4		E	0.03	0.8	D. clouds	
Hazaribagh	27.49	698.3	29.48	748.9	78.0	25.6	89	E	12.8	5.7			9		E	0.22	5.6	Thunder-storm	
Cuttack	29.42	747.3	29.50	749.4	87.1	30.6	69	SW	3.5	1.6			8			0.05	1.3	D. clouds	
Calcutta (Alipore)	29.51	749.6	29.53	750.2	79.9	26.6	96	SSE	8	3.6			10		SE			Raining	
Goalpara	29.22	742.2	29.60	751.9	84.4	29.1	72	S	4	1.8			5			0	0	D. clouds	
Chittagong	29.56	750.9	29.66	753.2	77.9	25.5	93	ENE	5.0	2.2			10			0.33	8.4	Raining	
Sibsagar	29.29	744.0	29.62	752.3	84.6	29.2	79	ENE	2.2	1.0			6			0.02	0.5	D. clouds	
Rangoon																			
Jubbulpore	28.14	714.6	29.48	748.8	82.0	27.8	81	NW	4.4	2.0			10			0.54	13.7	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.8 meters; Bangalore, 2,939 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.36	745.8	29.76	755.8	82.6	28.1	41	Calm	0	0			6			0	0		Prof. Giovanni Clodig.
Padua	29.64	752.9	29.76	755.6	82.4	28.0	51	ESE	8.1	3.6			9	SW		0	0		Prof. Dott. Lorenzoni
Vicenza	29.56	750.8	29.74	755.5	81.7	27.6	53	NE	1.3	0.6			4			0.472	12.0		Conte Alm. Da Schio.
Bergamo	28.44	722.4	29.70	754.3	77.0	25.0	61	SE			4		10			0	0		Prof. Trionfini Carlo.
Milan																			Prof. Schiaparelli.
Moncalieri	28.87	733.4	29.74	755.4	66.4	19.1	90	NW	5.6	2.5			10			1.839	46.7		Prof. P. F. Denza.
Mondovi	27.89	708.5	29.72	755.0	65.3	18.5	93	W			2		9			0	0		Prof. D. C. Bruno.
Porto Maurizio	29.54	750.3	29.75	755.7	81.7	27.6	63	SW			4		8	W		0	0		Prof. L. Vassallo.
Genoa	29.68	753.4	29.75	755.6	76.5	24.7	70	SE			2		10	SE		0	0		Prof. G. M. Garibaldi.
Parma	29.41	747.0	29.71	754.6	84.2	29.0	62	SW			4		6			0	0		Prof. P. Pigorini.
Florence	29.51	749.6	29.76	755.8	87.4	30.8	39	SW			2		7	SW		0	0		Cav. F. Meucci.
Leghorn	29.68	753.8	29.76	755.9	82.4	28.0	59	SSW	4.9	2.2			4	S		0	0		Prof. P. Monte.
Pesaro	29.69	754.2	29.74	755.5	80.1	26.7	66	NE					5			0	0		Prof. Luigi Guidi.
Urbino	28.26	717.9	29.76	755.8	83.5	28.6	39	SW			2		4			0	0		Prof. P. Serpieri.
Grosseto																			Avv. P. Ponticelli.
Rome	29.63	752.6	29.80	756.9	85.5	29.7	53	WSW	9.4	4.2			2			0	0		Prof. P. G. S. Ferrari.
Naples, O. U.	29.65	753.2	29.85	758.1	81.7	29.3	48	SW			4		1	W		0	0		Prof. L. Palmieri.
Lecce					87.6	30.9	32	ENE	8.7	3.9			3			0	0		Prof. C. De Giorgi.
Cagliari	29.61	752.0	29.79	756.7	83.1	28.4	60	S			2		3			0	0		Prof. A. Pacinotti.
Cosenza	28.97	735.9	29.82	757.3	92.9	33.8	53	SW	4.9	2.2			0			0	0		Prof. F. D. Conti.
Palermo	29.62	752.4	29.87	758.6	80.6	27.0	74	ENE	5.6	2.5			1			0	0		Prof. G. Caccialore.
Syracuse	29.74	755.4	29.82	757.3	93.6	34.2	37	S			1		4	SW		0	0		Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.31	744.4	29.86	758.5	82.9	28.3	56	WSW	3.1	1.4			4			0	0		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.79	756.6	29.98	761.5	78.5	25.8	90	SSE	2.3	1.0			2s			0	0	Fair	
Tokei (Yeddo) Observatory	29.68	753.9	29.95	760.7	75.6	24.2	91	SSW	7.3	3.3			9s			0.160	2.54	Cloudy	I. Arai, Director.
Tokei (Yeddo) University	29.81	757.9	29.94	760.4	76	24.4	93	SW	7.5	3.3			9s			0.08	2.0	Unsettled	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca					68.0	20.0	86	N	5.1	2.3		0	4s			0.17	4.4	½ cloudy	L. Castillo, A. E.
Guadalajara	25.10	637.5	30.06	763.5	59.0	15.0	89	Calm	0	0		0	8		E	0.99	25.0	Cloudy	Prof. L. Perez.
Guanajuato																			Prof. V. Fernandez
Leon					64.5	18.0	85	SE	0.9	0.4		0	10n			0.26	6.6	Covered	Prof. M. Leal.
Mexico	23.14	587.8	30.08	764.0	62.6	17.0	78	Calm	0	0		0	5ks			0.43	10.9	½ cloudy	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalts)					63.1	17.3	90	Calm	0	0		1c	8n			0.37	9.8	Rainy	M. Y. de Leon, M. E
Puebla	23.38	593.9	29.99	761.8	59.4	15.2	90	N	3.8	1.7		0	10k		N	0.36	9.0	Cloudy	Prof. B. Gonzalez.
Toluca																			Prof. C. Velazquez.
Tlacotalpam	29.88	758.9	29.89	759.2	78.8	26.0	94	SE	1.8	0.8		10cs	0			0	0	Covered	Prof. F. R. Bayly.
San Luis Potosi	24.23	614.7	30.06	763.4	67.6	19.4	72	WSW	0.9	0.4		3	6	W	WSW	0 93	23.6	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.93	760.3	29.96	761.0	81.5	27.5	81	Calm	0	0		6ck	3k			Inap.	Inap.	Foggy	Prof. J. Rossell.
Zacatecas					58.1	14.5	86	SW	5.1	2.3		0	8			0.39	10.0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.33	592.7	30.08	764.0	57 2	14.0	82	NE	0.4	0.2		2	8	S	E	0.43	10.8	½ cloudy	Prof. P. Spina, [M.M. D. D.
Morelia	24.04	610.5			64.4	18.0	66	SSW	0.9	0.4		5c	0	S		0.14	3.5	½ cloudy	M. Tena, F.L. Paramo,
Durango	24.21	615.0	29.95	760.8	66.6	20.6	56	SSW	0.9	0.4		8ck	0			0.08	2.1	Cloudy	M. Y. de Leon, C. E.
Colima	28.39	721.0	30.00	762.1	79.3	26.3	82									0.01	0.3	½ cloudy	R. Banda, C. E.
San Juan E. Mirabapam																			Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,831 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,771 m., or 5,812 ft.; Mexico, 2,283.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,947.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.75	755.6	29.75	755.6	70.2	21.2		W			4					0.283	7.2		
Groningen	29.66	753.3	29.71	754.7	74.7	23.7		S			1					0.193	4.9		
Helder	29.63	754.1	29.69	754.1	64.2	17.9		NE			1					2.571	65.3		
Hellevoetsluis	29.73	755.1	29.73	755.1	69.4	20.8	76	W			3								
Utrecht	29.69	754.2	29.74	755.4	70.0	21.1	75	WSW			4		8			0.066	1.7	Very cloudy	H. v d Broek.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; nor Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.77	756.2	29.83	757.6	66.9	19.4	36	NW	6.5	2.9	.....	.....	0	.....	.....	0	0	.....	
Brône	29.81	757.1	29.85	758.1	53.6	12.0	62	N	9	4	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.65	753.0	29.79	756.6	71 8	22.1	44	SSW	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	29.79	756.6	29.83	757.7	49.3	9.6	56	W	0	0	.....	.....	9	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.21	767.2	30.39	772.0	72.3	22.4	76	SSE	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.3	29.92	759.9	83.0	30.0	28	N	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	763.0	30.13	765.2	73 8	23.2	65	SW	8.1	3.6	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.67	753.5	30.02	762.4	72.7	22.6	46	N	27.3	12.2	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.32	770.1	30.39	771.9	76.3	24.6	56	SSE	.....	.....	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 8 m., p. m

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias			.....	R. A. T. Pinha, Com'd.
D. Fernando			.....	A. M. de Sande, Com'd.
India			.....	A. D. Pedroso, Com'd.
Mindello			.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 11° 37′, E. 13° 45′	1	SW	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	2	SE	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	3	NE	D. clouds	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	1	W	D. clouds	P. Texeira da Silva, Com'd't.
Tejo			.....	E. Ivos do Rio.

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.46	748.2	29.87	758.7	61.7	16.5	49	NW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.37	746.1	29.79	756.6	56.1	13.4	62	NW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.47	748.4	29.70	754.4	57.2	14.0	61	NNW	7	3	.....	.....	10k;n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.54	750.3	29.56	750.7	54.3	12.4	66	N	13	6	.....	.....	8a	.....	.....	.....	.....	.....	Central Physical Obs.
Knopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.06	738.1	29.68	753.8	61.2	16.2	44	NW	7	3	.....	.....	5k	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.66	753 4	29.75	755.2	64.4	18.0	72	N	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdukof.
Kertch	29.71	754.6	29.73	755.1	74.8	23.8	87	SSE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	28.91	734.3	29.44	747.8	58.3	14.6	65	NW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.36	745.8	29.56	750.9	61.0	16.1	84	S	4	2	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.28	743.7	29.30	744.2	50.9	10.5	74	NW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.26	717.7	29.58	751.2	86.9	30.5	35	NW	4	2	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.74	755.3	29.65	753.2	87.3	30.7	39	SE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.18	741.1	29.44	747.7	61.9	16.6	60	SW	7	3	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.63	727.1	29.51	749.6	78.6	25.9	32	SSW	27	12	.....	.....	10c;n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.53	750.0	29.75	755.6	86.2	30.1	31	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.17	715.6	29.76	755.9	85.6	29.8	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.27	743.4	29.78	756.3	58.8	14.9	88	WSW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.37	745.9	29.64	752.9	74.7	23.7	72	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.50	749.4	29.65	753.0	85.1	29.5	77	SE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 692.07 m., or 1,942.27 ft. * N. 53° 47′, F. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.9	29.90	759.5	77.5	25.3	62	S	4.9	2.17	.....	8	5	W	.....	0.324	8.24	⅜ covered	Antonio Rave, Director
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.4	72.5	22.5	69	N	2.7	1.28	.....	3	4	W	.....	0.063	1.6	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.1	.....	.....	66.2	19.0	56	N	9.3	4.14	.....	.....	6	.....	.....	0	0	Clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.5	29.82	757.5	87.6	30.9	37	NE	6.7	3.00	.....	0	3	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.70	754.3	29.84	757.9	83.9	31.6	59	E	4.6	2.06	.....	2	6	WNW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.22	742 3	30.10	764.5	70.3	21.3	66	NNW	7.3	3.28	.....	.....	5	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.89	759.3	29.96	760.9	82.1	27.8	81	Calm	0	0	.....	6ck;cs	1k	.....	.....	0	0	Cloudy	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	758.8	29.97	761.3	73.9	23.3	64	SW	17.1	7.6	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.87	758.8	29.97	761.1	83.1	28.4	83	SE	6.8	3.06	.....	2cs	0	SE	.....	0.758	19.26	Clear	Leonardo de Tejada, Civil Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.67	753.5	29.71	754.5	56.8	13.8	.....	N	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.73	755.1	29.78	756 4	65.8	18 2	57	S	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.78	755.1	29.78	756.4	62.6	17.0	48	SSW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.66	753 8	29.84	757.8	64.8	18.2	86	W	.....	.....	2	.....	3	.....	.....	0	0	.....	
Wisby	29.80	756.9	29.80	758.4	60.1	15.6	66	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.73	755.2	29.81	757.1	66.9	19.4	32	N	6.0	2.7	....	.....	2	.....	NW	0	0	.....	Dr. Hildebrandsson.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.47	723.0	29 86	758.5	63.7	17.6	76	NE	.....	.....	2	.....	10	.....	.....	0.118	3.0	Covered	The Observatory.
Zurich	28.21	716.4	29.79	756.7	69.3	20.7	83	W	.....	.....	2	.....	10	.....	NW	1.024	26.0	Thunder-storm.	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.8 mm.; Thermometer, —5.0 cent.; Relative Humidity, +24 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.74	755.3	84.2	29.0	43	S	7	3.0	.....	.....	1	.....	SW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.99	761.8	87.4	30.8	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.60	751.8	29.72	754.8	91.9	33.3	60	W	.....	.....	2	.....	2s	.....	W	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.56	750.8	29.63	752.6	65.9	18.8	77	SW	13	5.8	.....	9k	0	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.55	750.6	29.84	757.9	71	21.7	.....	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.65	753.1	29.71	754.6	65	18.3	73	SW	9	4.0	.....	2c	Haze	SW	Calm	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.78	756.4	29.82	757.4	66	18.9	70	SW	10	4.5	.....	2cs	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.57	751.1	29.75	756.6	71.0	21.7	60	W	.....	.....	4	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.46	748.3	29.62	752.3	62.8	17.1	77	W	.....	.....	1	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.97	761 2	30.01	762.2	55.2	12.9	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.51	749.5	29.53	750.0	57	13.9	78	SW	13	5.8	.....	.....	Sm'e	.....	Calm	0,10	2.5	Light rain	J. McWilliams.
Fredericton, N. B	29.73	755.1	29.79	756.7	69.0	20.9	68	SW	7	3.1	.....	.....	Sm'e	.....	.....	0	0	Smoky	Prof. Harrison.
*Fort Garry Manitoba	29.02	737.1	29.81	757.2	68	20.0	92	NE	13	5.8	.....	5k	5n	N	N	0	0	Cloudy	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.80	731.5	29.86	758.4	66	18.9	89	SW	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.75	755.6	29.88	758.9	66	18.9	65	SW	10	4.5	.....	8cs	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.52	749.8	29.88	758.9	71.7	22.1	77	W	.....	.....	3	3c	0	NW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.88	758.9	29.90	759.4	57	13.9	78	SW	.....	.....	1	0	0	.....	.....	0,10	2.5	Fine	E. Weedon.
*Kingston, Ontario	29.52	749.8	29.84	757.9	70	21.1	73	SW	10	4.5	.....	Haze	Sm'e	.....	SW	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.82	757.4	29.86	758.4	70.0	21.1	.....	SW	8	3.6	.....	7k	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.56	750.8	29.75	755.6	69	20.6	69	W	16	6.7	.....	2k	8s	.....	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.12	739.6	29.78	756.4	71	21.7	87	SW	13	5.8	.....	6c	0	W	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.10	739.1	29.81	757.2	72.2	22.3	64	SW	.....	.....	1	3k	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.22	742.2	29.88	758.9	70	21.1	85	SW	6	2.7	.....	5ck	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.27	743.4	29.88	758.9	71	21.7	82	W	6	2.7	.....	5ck	Haze	W	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	29.40	746.7	29.71	754.6	61	16.1	68	W	.....	.....	1	Haze	Haze	.....	.....	0	0	Hazy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.28	743.7	29.72	754.9	67	19.4	81	E	3	1.3	.....	5ck	0	NW	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.78	756.4	29.83	757.7	63	17.2	50	Calm	0	0	.....	2c	0	NE	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.70	754.4	29.87	758.7	59	15.0	88	S	10	4.5	.....	4cs	0	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.12	739.6	29.79	756.7	72	22.2	62	S	6	2.7	.....	Haze	0	.....	.....	0	0	Smoky	K. Stewart.
Stayner, Ontario	29.04	737.6	29.78	756.4	72	22.2	68	SW	8	3.6	.....	5c	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.86	758.4	29.89	759.2	69	20.6	77	SW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.49	749.0	29.86	758.4	68	20.0	83	SW	4	1.8	.....	8cs	Haze	W	.....	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	65.0	18.3	73	SW	.....	.....	.....	2k	2s	.....	.....	0.02	0.5	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the SECRETARY OF WAR. UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Low'r. 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.65	753.9	29.90	759.4	68	20.0	60	S	8	3.6	....	Haze	0	..	....	0	0	Clear	
Alpena, Michigan	29.18	741.2	29.78	756.4	69	20.6	65	W	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	
Atlantic City, New Jersey	29.98	761.5	30.00	762.0	72	22.2	80	SW	8	3.6	.....	Haze	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.86	758.4	30.03	762.7	80	26.7	70	SE	5	2.2	.....	5ck	Sm'e	NE	.....	0	0	Fair	
Baltimore, Maryland	29.95	760.7	30.00	762.0	72	22.2	67	SW	5	2.2	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Barnegat, New Jersey	29 97	761.2	29.99	761.7	75	23.9	68	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.03	711.9	29.88	758.9	70	21.1	85	Calm	0	0	.....	0	8s	.....	N	0	0	Cloudy	
BoiseCity, Idaho	27.12	688.8	30.00	762.0	66	18.9	53	S	1	0.4	.....	5k	0	NW	.....	0	0	Fair	
Boston, Massachusetts	29.78	756.4	29.92	760 0	72.5	22.5	54	W	7	3.1	.....	5cs	Haze	W	Calm	0	0	Fair	
Brackettville, Texas	28.72	729.5	29.70	754.4	78	25.6	73	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.78	731.0	29.73	755.1	64	17.8	100	SE	3	1.3	.....	10cs	0	W	.....	0	0	Cloudy	
Brownsville, Texas	29.91	759.7	29.97	761.2	82	27.8	83	SE	6	2.7	.....	2ck	5ks	Calm	Calm	0	0	Fair	
Buffalo, New York	29.19	741 4	29.85	758.2	71	21.7	58	SW	7	3.1	.....	2c	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	86	30.0	51	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.59	751.6	29.84	757.9	71	21.7	49	S	8	3.6	.....	5c	Haze	W	.....	0	0	Fair	
Cairo, Illinois	29.53	750.0	29.91	759.7	76	24.4	69	Calm	0	0	.....	5c	Haze	Calm	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	64	17.8	62	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	70	21.1	66	Calm	.....	.....	0	0	2s	.....	Calm	0	0	Clear	
Camp Verde, Arizona	26.69	677.9	30.18	766.6	74	23.3	51	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.36	694.9	29.93	760.2	43	6.1	75	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.03	762.7	79	26.1	58	E	7	3.1	.....	2k	0	E	.....	0	0	Fair	
Cape Henry, Virginia	30.06	763.5	30.08	764.0	71	21.7	80	SW	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Cape Lookout, N. Carolina	30.02	762.5	30.04	763.0	80	26.7	55	E	14	6.3	.....	5k	0	E	.....	0	0	Fair	
Cape May, New Jersey	29.99	761.7	30.02	762.5	73	22.8	71	SW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.11	739.4	29.77	756.1	84	28.9	64	SE	1	0.4	.....	0	2ks	.....	SE	0	0	Fair	
Charleston, South Carolina	30.00	762.0	30.07	763.8	78	25.6	73	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.08	611 6	30.02	762.5	58	14.4	88	NW	12	5.4	.....	0	0	.....	.....	0.04	1.0	Clear	
Chicago, Illinois	29.14	740.1	29.79	756.7	72	22.2	62	SW	5	2.2	.....	10c	Sm'e	NW	.....	0.01	0.3	Cloudy	
Cincinnati, Ohio	29.26	743.2	29.87	758.7	73	22.8	65	SE	3	1.3	.....	7c	0	Calm	.....	0	0	Fair	
Cleveland, Ohio	29.18	741.2	29.88	758.9	66	18.9	69	SE	8	3.6	.....	5ck	Sm'e	W	Calm	0	0	Fair	
Columbus, Ohio	29.12	739.6	29.89	759.2	69	20.6	70	Calm	.....	.....	0	Haze	Haze	Calm	Calm	0	0	Hazy	
Corpus Christi, Texas	27.95	709.9	29.54	750.3	76	24.4	76	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.43	747.5	29.88	758.9	76	24.4	91	SW	8	3.6	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Davenport, Iowa	29.18	741.2	29.78	756.4	73	22.8	63	S	6	2.7	.....	1cs	0	SW	.....	Inap.	Inap.	Clear	
Denison, Texas	29.04	737.6	29.79	756.7	78	25.6	82	S	10	4.5	.....	5cs	5s	SE	SE	0	0	Cloudy	
Denver, Colorado	24.69	627.1	29.91	759.7	65	18.3	78	S	4	1.8	.....	0	0	.....	.....	0.10	2.5	Clear	
Detroit, Michigan	29.20	741.7	29.84	757.9	71	21.7	62	SW	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Dodge City, Kansas	27.23	691.6	29.38	746.2	71	21.7	90	W	12	5.4	.....	.....	10s	.....	W	0.12	3.0	Cloudy	
Dubuque, Iowa	29.09	738.9	29.74	755.4	73	22.8	67	S	1	0.4	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Duluth, Minnesota	29.07	738.4	29.70	754.4	72	22.2	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eagle Pass, Texas	29.08	738.6	29.79	756.7	80	26.7	87	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.75	755.6	29.82	757.4	64	17.8	68	S	6	2.7	.....	10c;hz	Haze	w;Calm	Calm	0	0	Hazy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	59	W	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Erie, Pennsylvania	29.18	741.2	29.86	758.4	72	22.2	68	S	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Escanaba, Michigan	29.12	739.6	29.74	755.4	68	20.0	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Florence, Arizona	.....	.....	.....	.....	79	26.1	58	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Davis, Texas	25.14	638.5	30.10	764.5	72	22.2	63	W	5	2.2	.....	5ck	0	NW	.....	0.04	1.0	Fair	
Fort Gibson, Indian Ter	29.27	743.4	29.78	756.4	78	25.6	91	S	9	4.0	.....	.....	10n	.....	S	0.20	5.1	Light rain	
Fort Griffin, Texas	28.56	725.4	29.76	755.9	79	26.1	70	SE	4	1.8	.....	2cs	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.62	726.9	29.66	753.4	78	25.6	82	SE	2	0.9	.....	.....	10s	.....	S	0.42	10.7	Cloudy	
Galveston, Texas	29.88	758.9	29.92	760.0	85	29.4	79	SE	6	2.7	.....	0	0	.....	.....	0.31	7.9	Clear	
Grand Haven, Michigan	29.18	741.2	29.80	756.9	72	22.2	62	S	10	4.5	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.12	739.6	29.85	758.2	74	23.3	55	SE	4	1.8	.....	8c;cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.89	759.2	29.91	759.7	86	30.0	76	S	10	4.5	.....	3ck;k	0	SW;S	.....	0	0	Fair	
Jacksboro, Texas	28.69	728.7	29.75	755.6	78	25.6	73	S	11	4.9	.....	9ck	0	S	.....	0	0	Cloudy	
Jacksonville, Florida	29.95	760.7	29.97	761.2	86	30.0	68	E	6	2.7	.....	0	0	.....	.....	0.04	1.0	Clear	
Keokuk, Iowa	29.15	740.4	29.72	754.9	77	25.0	61	S	3	1.3	.....	5k	1s	S	Calm	0	0	Fair	
Key West, Florida	29.90	759.4	29.94	760.5	83	28.3	79	Calm	0	0	.....	5cs	1ks	NW	Calm	0.54	13.7	Fair	
Kittyhawk, North Carolina	30.02	762.5	30.04	763.0	76	24.4	73	E	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	29 00	736.6	29.95	760.7	74	23.3	72	Calm	0	0	.....	0	Haze	.....	.....	0	0	Hazy	
La Crosse, Wisconsin	29.09	736.6	29.69	754.1	71	21.7	85	S	5	2.2	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
La Mesilla, New Mexico	25.98	659.9	30.13	765.3	70	21.1	85	S	1	0.4	.....	0	5s	.....	Calm	0	0	Fair	
Laredo, Texas	29.43	747.5	29.75	755.6	81	27.2	74	SE	4	1.8	.....	10ck	0	Calm	.....	0	0	Cloudy	
Lead City, Dakota	24.86	631.4	.....	.....	59	15.0	94	S	2	0.9	.....	.....	10s	.....	Calm	1.45	36.8	Cloudy	
Leavenworth, Kansas	28.87	733.3	29.66	753.4	73	22.8	95	S	6	2.7	.....	.....	10n	.....	S	0.22	5.6	Light rain	
Los Angeles, California	29.54	750.3	29.88	758.9	60	15.6	91	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.33	745.0	29.86	758.4	75	23.9	56	NE	1	0.4	.....	5c	Sm'e	NE	Calm	0	0	Fair	
Lynchburg, Virginia	29.32	744.7	29.98	761.5	69	20.6	70	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.05	737.9	29.71	754.6	70	21.1	75	W	6	2.7	.....	5c	2s	W	Calm	0	0	Cloudy	
Mason, Texas	28.26	717.8	29.92	760.0	80	26.7	91	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.60	751.8	29.91	759.7	74	23.3	76	NE	3	1.3	.....	5c	Sm'e	SW	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.05	738.6	29.77	756.1	72	22.2	76	SW	10	4.5	.....	10cs	0	NW	.....	0	0	Cloudy	
Mobile, Alabama	29.80	759.2	29.93	760 2	81.5	27.5	68	S	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Montgomery, Alabama	29.72	754.9	29.94	760.5	80	26.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.92	734.6	29.92	760.0	72	22.2	66	Calm	0	0	.....	1c	0	NW	.....	0	0	Clear	
Mt. Washington, N. H.	23.79	604.3	30.15	765.8	45	7.2	67	NW	32	14.3	.....	0	Haze	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.40	746.7	29.91	759.7	77	25.0	65	NE	2	0.9	.....	8c	Haze	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.85	758.2	29.96	761.0	74	23.3	72	Calm	0	0	.....	5c	Haze	.....	.....	0	0	Fair	
New London, Connecticut	29.92	760.0	29.97	761.2	74	23.3	81	W	4	1.8	.....	5cs;hz	Haze	sw;Calm	Calm	0	0	Light haze	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	84	28.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.91	759.7	29.96	761.0	72	22.2	89	SW	4	1.8	.....	7c	0	SW	.....	0	0	Fair	
New York, New York	29.81	757.2	29.98	761.5	69	20.6	79	W	9	4.0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Norfolk, Virginia	30.00	762.0	30.06	763.5	77	25.0	65	S	1	0.4	.....	Haze	Haze	.....	.....	0	0	Hazy	
North Platte, Nebraska	26.95	684.5	29.36	745.7	71	21.7	93	NE	12	5.4	.....	.....	10s	.....	NE	Inap.	Inap.	Cloudy	
Olympia, Washington Ter.	30.02	762.5	30.06	763.5	52	11.1	86	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.58	725.9	29.58	751 3	74	23.3	95	Calm	0	0	.....	.....	10n	.....	Calm	1.54	39.1	Light rain	
Oswego, New York	29.57	751.1	29.88	758.9	66	18.9	74	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.99	736.3	29.78	756.4	64	17.8	94	N	6	2.7	.....	2ck	5s	N	N	0	0	Cloudy	
Philadelphia, Pennsylvania	29.95	760.7	30.00	762.0	72	22.2	71	SW	16	7.2	.....	0	Haze	.....	Calm	0	0	Hazy	
Phœnix, Arizona	28.64	727.4	.....	.....	81	27.2	29	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.01	457.4	30.22	767.6	35	1.7	61	NE	16	7.2	.....	5k	0	NE	.....	0.99	22.9	Fair	
Pioche, Nevada	24.09	611.9	29.86	758.4	61	16.1	40	W	3	1.3	.....	2k	0	SW	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.13	739.9	29.92	760.0	64	17.8	83	N	1	0.4	.....	2c	0	N	.....	0	0	Fair	
Port Huron, Michigan	29.18	741.2	29.81	757.2	69	20.6	70	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	29.80	756.9	29.85	758.2	70	21.1	57	W	9	4.0	.....	2k	Haze	Calm	.....	0	0	Clear	
Portland, Oregon	30.06	763.5	30.17	766.3	55	12.8	81	Calm	0	0	.....	.....	10ks	.....	N	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters	Weather.	Observer.
Prescott, Arizona	24.81	630.2	30.17	766.3	59	15.0	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.94	760.5	29.96	761.0	85	29.4	49	Calm	0	0	.....	5ck	0	W	.....	0.08	2.0	Fair	
Red Bluff, California	29.54	750.3	29.89	759.2	68	20.0	56	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.27	743.4	29.85	758.2	65	18.3	63	SW	5	2.2	.....	1c	Haze	Calm	Calm	0	0	Clear	
Roseburg, Oregon	29.56	750.8	30.14	765.5	52.5	11.4	93	Calm	0	0	.....	0	1s	.....	Calm	0	0	Clear	
Sacramento, California	29.80	756.9	29.88	758.9	56	13.3	87	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.31	744.5	29.85	758.2	71	21.7	71	S	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
St. Marks, Florida	29.94	760.5	29.96	761.0	77	25.0	95	E	4	1.8	.....	8ck	0	E	.....	0.30	7.6	Fair	
St. Paul, Minnesota	28.90	734.0	29.68	753.9	69	20.6	90	NE	5	2.2	.....	.....	10n	.....	Calm	1.98	50.3	Light rain	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	68	20.0	42	N	6	2.7	.....	0	0	.....	.....	0.	0	Clear	
San Antonio, Texas	29.21	741.9	29.76	755.9	77	25.0	91	S	1	0.4	.....	0	0	.....	.....	0.	0	Clear	
San Diego, California	29.85	758.2	29.92	760.0	64	17.8	89	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.24	742.7	29.88	758.9	71	21.7	53	SW	10	4.5	.....	Haze	0	Calm	.....	0	0	Clear	
Sandy Hook, New Jersey	29.95	760.7	29.98	761.5	76	24.4	64	W	20	8.9	.....	0	Haze	.....	Calm	0	0	Hazy.	
San Francisco, California	29.87	758.7	29.94	760.5	54	12.2	87	S	6	2.7	.....	.....	Fog	.....	Calm.	0	0	Foggy	
Santa Fé, New Mexico	28.31	692.1	29.85	758.2	60	15.6	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.92	760.0	30.01	762.2	83	28.3	79	E	6	2.7	.....	5cs	1ks	Calm	E	0	0	Fair	
Shreveport, Louisiana	29.68	753.9	29.88	758.9	83	28.3	83	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.28	616.7	30.21	767.3	65	18.3	73	W	2	0.9	.....	2c	0	.....	Calm	0.10	2.5	Fair	
Smithville, North Carolina	30.03	762.7	30.06	763.5	74	23.3	72	N	4	1.8	.....	1k	0	Calm	.....	0	0	Clear	
Springfield, Massachusetts	29.75	755.6	29.87	758.7	73	22.8	67	S	2	0.9	.....	2c	0	W	.....	0	0	Fair	
Stockton, Texas	26.83	681.5	29.83	757.7	72	22.2	26	SW	10	4.5	.....	0	0	.....	.....	0.	0	Clear	
Thatcher's Island, Mass.	29.87	758.7	29.92	760.0	64	17.8	83	SW	12	5.4	.....	1c	Sm'c	Calm	Calm	0	0	Smoky	
Toledo, Ohio,	29.20	741.7	29.83	757.7	74	23.3	59	S	6	2.7	.....	0	8ks	.....	Calm	0	0	Cloudy	
Tucson, Arizona	27.37	695.2	29.92	760.0	79	26.1	74	SE	.....	.....	1	2k	0	Calm	.....	0	0	Fair	
Tybee Island, Georgia	29.97	761.2	30.00	762.0	83	28.3	67	E	11	4.9	.....	2k	2ks	Calm	E	0	0	Fair	
Umatilla, Oregon	29.61	752.1	.....	.....	67	19.4	55	W	8	3.6	.....	2k	0	W	.....	0	0	Fair	
Vicksburg, Mississippi	29.70	754.4	29.95	760.7	79	26.1	74	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.39	619.5	29.87	758.7	59	15.0	82	Calm	0	0	.....	0	0	.....	.....	0.48	12.2	Clear	
Visalia, California	29.52	749.8	29.88	758.9	64	17.8	68	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.92	760.0	30.03	762.7	75	23.9	68	S	7	3.1	.....	2c	0	W	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	69	20.6	43	SE	.....	.....	2	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.97	761.2	30.05	763.3	72	22.2	80	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	55	12.8	33	SW	9	4.0	.....	2k	0	SW	.....	0	0	Fair	
Wood's Holl, Mass.	29.92	760.0	29.97	761.2	68	20.0	94	SW	10	4.5	.....	Fog	Fog	Calm	Calm	0	0	Dense fog	
Yankton, Dakota	28.46	722.9	29.66	753.4	72	22.2	92	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Yuma, Arizona	29.59	751.6	29.74	755.4	82	27.8	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.73	755.1	29 78	756.4	51.0	10.6	72	S	10	4.5	.....	3c	0	N	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.92	760.0	29.94	760.5	85	29.4	75	Calm	0	0	.....	4ck	4cs	Calm	E	0	0	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.06	763.5	30.07	763.8	81	27.2	91	SE	5	2.2	.....	8c	2sk	Calm	SE	0.36	9.1	.....	F. M. Everett.
Navassa, W. I.	29.85	758.2	29.93	760.2	81	27.2	.....	E	18.3	8.2	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	82	27.8	79	E	3	1.3	.....	4c	0k	E	.....	0.200	5.08	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herrin.
Medellin, Colombia, S. A.	25.24	641.1	.....	.....	66.0	18.9	85	Calm	0	0	.....	.....	10n	.....	.....	0.13	3.3	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,700 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,688 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,255 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,064.6 ft., or 324.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,060 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	55	12.8	54	12.2	97	SSW	18	8.0	.....	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.10	764.5	84	28.9	84	28.9	87	NE	4	1.8	.....	.....	5	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N. H	29.90	759.4	78	25.6	70	21.1	57	W	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.98*	761.5*	76.8	24.9	76.9	24.9	86	SW	.....	.....	4	.....	9ks	.....	SW	0.06	1.5	.....	.....	Cloudy.....	
Adams. Apia, Samoan Islands...	29.97	761.2	79	26.1	78	25.6	95	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	.....	.....	Pleasant....	
Alliance, Havre, France.....	29.85‡	758.2‡	.....	.....	67	19.4	89	NW	.....	.....	1–2	.....	7	.....	NW	.....	.....	.....	.....	Cloudy.....	
Ashuelot. Nagasaki, Japan.....	30.05	763.3	82	27.8	81	27.2	100	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	.....	.....	Misty.....	
Alaska, S. 15° 26', W. 38° 27'.....	30.33	770.4	76	24.4	76	24.4	64	ESE	.....	.....	4	.....	3	.....	SE	0	0	Long	SE	D. clouds.....	
Canonicus, New Orleans, La.....	30.01	762.2	58	14.4	81	27.2	??	W	.....	.....	3	.....	4	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.....	29.97‡	761.2‡	.....	.....	70	21.1	80	SSW	10	4.5	.....	.....	5	.....	SW	0	0	.....	.....	Hazy.....	
Constitution, Havre, France.....	29.82‡	757.4‡	.....	.....	66	18.9	79	WNW	.....	.....	4	.....	6	.....	W	.....	.....	.....	.....	Squally.....	
Despatch, Prince's Islands, Sea of Marmora	29.74‡	755.4‡	.....	.....	79	26.1	78	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va.....	30.18	766.6	74	23.3	72	22.2	80	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Gettysburg N. 41° 21', E. 12° 14'.....	29.80‡	756.9‡	.....	.....	78	25.6	100	W	.....	.....	3	.....	2	.....	Calm	0	0	Long	W	Hazy.....	
Hartford, Rio de Janeiro, Brazil ...	30.17	766.3	.....	.....	66	18.9	84	N	4.0	1.8	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Marion, Villefranche, France	29.76	755.9	79	26.1	80	26.7	66	E	.....	.....	3	.....	2	.....	E	0	0	.....	.....	Fair.....	
Michigan, Buffalo, N. Y.....	29.44	747.8	75	23.9	74	23.3	55	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear..... ...	
Monocacy. Yokohama, Japan	29.95‡	760 7‡	.....	.....	78	25.6	95	SSW	.....	.....	2–3	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.....	30.23†	767.8†	.....	.....	82	27.8	79	ENE	9	4.0	.....	.....	2	.....	ESE	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.10†	764.5†	.....	.....	61	16.1	94	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.82	757.4	91	32.8	86	30.0	91	SSE	.....	.....	1	.....	8?	.....	.....	.....	.....	.....	.....	Clear?.....	
Pensacola, Mare Island, California	30.01	762.2	61	16.1	56	13.3	94	SSW	7	3.1	.....	.....	10	.....	SSW	.....	.....	.....	.....	Overcast.....	
Plymouth, New York, N. Y.....	29.97‡	761.2‡	.....	.....	71	21.7	53	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Hazy.....	
Ranger. Hong-Kong, China	30.07*	763.8*	.....	.....	86	30.0	83	S	.....	.....	1	.....	1	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas.....	29.90	759.4	81	27.2	81	27.2	96	SE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	30.01‡	762.2‡	.....	.....	72	22.2	75	WSW	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Hazy.....	
St. Louis, League Island, Pa	29.99	761.7	73	22.8	74	23.3	68	SW	15	6.7	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, Havre, France.....	29.89	759.2	67	19.4	67	19.4	74	NW	.....	.....	2	.....	8	.....	NW	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.....	29.96‡	761.0‡	.....	.....	69	20.6	90	W	.....	.....	3	.....	2	.....	W	.....	.....	.....	.....	Clear.....	
Trenton, N. 37° 45', W. 9° 10'.....	30.01‡	762.2‡	.....	.....	68	20.0	90	N	.....	.....	5–6	.....	0	.....	.....	0	0	.....	.....	Clear.	
Tuscarora, Acapulco, Mexico.....	29.71	754.6	82	27.8	82	27.8	79	Calm	.....	.....	0	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Vandalia, Beirut, Syria.....	29.68‡	753.9‡	.....	.....	85	29.4	76	W	.....	.....	1	.....	0	.....	.....	.....	.....	Long	W	Clear.....	
Wabash, Boston, Mass.....	29.92‡	760.0‡	.....	.....	73	22.8	59	W	5	2.2	.....	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Wyoming, N. 45° 50', W. 47° 34'.....	30.03†	762.7†	.....	.....	50	10.0	100	WSW	.....	.....	4–5	.....	5	.....	.....	.....	.....	Long mod'ate	WSW	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 30° 52', E. 132° 35'		30.06*	763.5*	83	28.3	100	SE			3		4	SE		0	Light	SE	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Seattle, W. T.		30.20*	767.1*				Calm			0		0						Clear	Capt. Seabury.
S. S. City of Peking, N. 36° 59', W. 145° 18'		30.51†	774.9†	63	17.2	72	N	25	11.2			9	N		0	Small	N	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 31° 30', W. 117° 35'		29.94†	760.5†	62	16.7	88	NW			2		10	Calm		0	Mod'ate	WNW	Overcast	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES. Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic, N. 44° 40', W. 52° 4'		30.00*	762.0*	54	12.2	80	SW			4				W	0	Slight	SW	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 47° 03', W. 37° 02'		30.05†	763.3†	61	16.1	100	Var.			2		10			2 hours	None		Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 43° 46' W. 145° 25'		30.45*	773.4*	61	16.1	82	S			3		cs			0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.21*	767.3*	71	21.7	90	W			2		3		W	0			Partly cl'dy	Captain Sargent.
S. S. Ohio, Liverpool		29.65	753.1	68	20.0	70	WNW			1		10		WNW	Light			Dull	Captain Morrison.
S. S. Pennsylvania, N. 43° 04', W. 55° 52'		30.10†	764.5†	64	17.8	100	W			2		0			0	Light	W	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 42° 38', W. 67° 34'		30.08*	764.0*				SSW	6	2.7			0				Mod'ate	SW	Clear	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, N. 66° 55', W. 58° 0'		29.43*	747.5*	36.5	2.5	83	ESE			2.5	8c	2ks	W	SW	0.37 in or 9.4 mm.			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 26, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:38 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.09	762.0	69.1	20.6	84	NE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Dr. Olive.
Nemours	.....	.....	30.00	762.1	81.7	27.6	69	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Michel.
Algiers	.....	.....	29.95	760.6	84.6	29.2	61	WNW	.....	.....	4	.....	6	.....	.....	0	0	Cloudy.....	Tourillere.
La Calle	.....	.....	29.94	760.4	83.5	28.6	66	NW	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	Foufrede.
Tunis	.....	.....	29.90	759.4	103.5	39.7	.....	N	.....	.....	6	.....	5	.....	.....	0	0	Cloudy.....	Jacques.
Sfax	.....	.....	29 94	760.5	87.8	31.0	.....	NNE	.....	.....	6	.....	6	.....	.....	0	0	Cloudy.....	Gau.
Saida	.....	.....	30.06	763.4	86.9	30.5	19	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	29.94	760 4	82.4	28.0	35	N	.....	.....	5	.....	4	.....	.....	0	0	Cloudy.....	Watrin.
Geriville	.....	.....	30.00	762.1	86.4	30.2	35	NNE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	Brugniaux.
Laghouat	.....	.....	30.02	762.6	90.7	32.6	25	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	29.91	759.7	100.0	37 8	.....	NW	.....	.....	4	.....	2	.....	.....	0	0	Fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.0? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.10	739.1	29.68	752.6	65.5	18.6	97	NW	.....	.....	3	.....	10	.....	.....	1.969	50.0	Thunder-storm.	Prof. Ivan Stoin
Cracow	29.05	737.9	29.78	756.5	68.2	20.1	53	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Dr. Karlinski.
Eperies	28.89	733.7	29.72	754.8	76.6	24.8	69	S	.....	.....	3	.....	4cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.51	724.1	29.71	754.7	68.7	20.4	81	E	.....	.....	3	.....	0	.....	.....	1.268	32.20	.....	Andreas Rospini.
Hermannstadt	28.35	720.1	29.70	754.3	74.7	23.7	59	SE	.....	.....	3	.....	8	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.36	720.3	29.66	753.4	60.8	16.0	89	W	.....	.....	4	.....	10	.....	.....	0.472	12.0	.....	Prof. C. Wagner
Lemberg	28.85	732.9	29.81	757.1	65.8	18.8	56	SE	.....	.....	2	.....	6	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.52	749.9	29.63	752.6	67.5	19.7	91	Calm	.....	.....	0	.....	10ns	.....	.....	1.252	31.8	.....	I.R.Hydrographic Office
Szathmar	29.33	744.9	29.77	756.1	77.7	25.4	57	SE	.....	.....	3	.....	1	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.55	750.6	29.65	753.2	73.2	22.9	78	ESE	.....	.....	1	.....	10	.....	.....	3.500	88.9	Thunder-storm...	P. Busin.
Vienna	29.04	737.5	29.72	755.0	69.1	20.6	66	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	I. R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.42	721.8	29.88	759.0	66.7	19.3	49	W	.....	.....	3	.....	7	.....	.....	0.374	9.5	.....	Prof. M. Passau.
Brussels	29.04	752.8	29.84	757.8	64.0	18.1	69	SSW	.....	.....	3	5	5	W	WSW	0.002	0.05	.....	Royal Observatory
Furnes	29.80	756.9	29.82	757.5	67.5	19.7	62	WSW	.....	.....	3	.....	10	.....	.....	0.004	0.1	.....	M. E. de Cae
Maeseyck	29.74	755.3	29.80	758.5	69.8	21.0	58	W	.....	.....	4	.....	7	.....	.....	0.157	4.0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.65	753.1	29.75	755.6	58.0	14.4	.....	NW	15	6.7	.....	.....	9	.....	.....	0.040	1.02	Showery.....	W. Boswell.
Ardrossan	29.69	754.1	29.71	754.6	65	18.3	.....	NW	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	George Carrick.
Armagh, Observatory	.....	.....	29.79	756.7	62.4	16.9	.....	NNE	2	0.9	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.78	756.4	63.0	17.2	.....	WNW	10	4.5	.....	.....	5	.....	.....	.....	.....	D. clouds.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.80	756.9	62.7	17.1	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Showery	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.34	745.2	29.74	755.4	67.9	19.9	.....	W	.....	.....	2	.....	3	.....	.....	0.10	2.5	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	30.04	763.0	30.07	763 8	83.5	28.6	.....	NE	.....	.....	2	.....	4?	.....	.....	.....	.....	Overcast?...	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.76	755.9	69.0	20.6	.....	W	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds.....	H. Todd. [H. O.
Cardington	.....	.....	29.79	756.7	70.4	21.3	.....	NW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E	29.66	753.4	29.78	756.4	72.7	22.6	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Lt. W. G. Morris, R. E.
Dartmoor	28.38	720.8	29.80	756 9	59.0	15.0	.....	W	.....	.....	3	.....	5	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	29.75	755.6	29.78	756.4	63	17.2	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.78	756.4	29.80	756.9	66	18.9	.....	WSW	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.75	755.6	70.0	21.1	.....	NW	7.0	3.1	.....	.....	6	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.69	754.1	29.91	759.7	67.8	19.9	.....	WNW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.74	704.6	30.04	763.0	72.4	22.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.75	755.6	29.98	761.5	84	28.9	.....	N	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.75	755.6	63	17.2	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.88	758.9	29.94	760.5	79.8	26.6	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.50	749.3	29.71	754.6	66.6	19.2	.....	NNE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.75	755.6	29.76	755.9	68	20.0	.....	WNW	.....	.....	2	.....	5	.....	.....	Blank	Blank	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.63	752.6	29.80	756.9	68.8	20.4	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Nearly overcast.	The Staff, for G. B. Airy.
Guernsey	29.67	753.6	29.89	759.2	66.5	19.2	.....	WNW	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F. R. S.
Helston	.....	.....	29.92	760.0	68	20.0	.....	W	.....	.....	2	.....	3c	.....	.....	0.8	20.	Fine.....	M. P. Moyle.
Holyhead	29.75	755.6	29.80	756.9	62	16.7	.....	WNW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.64	752.8	29.93	760.2	66.6	19.2	.....	W	.....	.....	4	.....	9	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	29.80	756.9	67.5	19.7	.....	WSW	10	4.5	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.78	756.4	29.80	756.9	64	17.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.76	755.9	66.9	19.4	.....	W	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	Wm. J. Harrison, F. G. S.
Malta, (Mediterranean)	29.66	753.4	29.74	755.4	86	30.0	.....	NE	.....	.....	1	.....	5k	.....	.....	.....	.....	D. clouds.....	Sgt. Hewitt, A. H. C.
Nairn	29.66	753.4	29.75	755.6	61	16.1	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.95	760.7	86.0	30.0	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.58	751.3	29.77	756.1	72.2	22.3	.....	WNW	.....	.....	3	.....	10k;ks	.....	SW	0.014	1.12	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.77	756.1	64.1	17.8	.....	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.74	755.4	68	20.0	.....	SSW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.80	756.9	29.88	758.9	71.5	21.9	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.75	755.6	29.79	756.7	66	18.9	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	29.68	753.9	29.83	757.7	63	17.2	.....	W	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.74	755.4	57.5	14.2	.....	W	19	8.5	.....	.....	3	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.71	754.6	91.7	33.2	.....	ENE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.49	749.0	29.76	755.9	72.1	22.3	.....	WSW	.....	.....	4	.....	2	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	29.71	754.6	29.74	755.4	72.5	22.5	61	SW	.....	.....	2	.....	1	.....	.....	0	0	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.37	746.0	29.78	756.4	64.1	17.8	.....	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	W. C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	29.71	754.6	29.74	755.4	58	14.4	.....	N	.....	.....	4	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.59	751.6	29.80	756.9	71.7	22.1	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	29.76	755.9	62	16.7	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.93	760.2	70	21.1	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.81	757.2	62.7	17.1	.....	W	24	10.7	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.12	739.6	55.0	12.8	93	S	.....	.....	3	.....	10n	.....	.....	2.	51.	Raining.....	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.11	764.7	71.5	21.9	70	E	8.5	3.8	.....	.....	10	.....	.....	0.02	0.5	Overcast.....	C. Meldrum.
Melbourne, Observatory	29.53	750.0	29.62	752.3	46.2	7.9	79	W	14	6.3	.....	.....	7	.....	.....	0.19	4.8	Showery	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Barnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 58° 50′ W. 47° 45′	4	.....	Rain & fog	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	Capt. D. W. A. Q uaile
Barque Margaret Smith	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 47° 15′, W. 49° 50′	4	SW	Foggy	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San Jose	26.27	667.2			68.4	20.2	98	Calm			0		10s			Inap.	Inap.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.62	757.4	29.87	758.6	65.1	18.4	46	SSE			4		1						
Fanöe	29.74	755.5	29.76	756.0	64.2	17.9	90	SE			4		7						
Godthaab, (Greenland)	29.56	750.7	29.60	751.8	43.3	6.8		S			4		10						
Stykkisholm, (Iceland)	29.82	757.3	29.86	758.4	46.0	7.8	81	W			8		8						
Thorshavn, (Farõe)	29.69	754.0	29.72	754.9	56.5	13.6	69	NW			2		10						
Vestervig	29.61	752.1	29.78	756.4	61.2	16.2	96	SE			4		10						Raining

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.42	747.3	29.97	761.3	68.0	20	86	SW			2		8			0.012	0.3	Very cloudy	Collignon, Director.
Amiens, Normal School	29.73	755.2	29.84	757.9	69.4	20.8	67	SW			2		10			0	0	Covered	Bonvallet, Director.
Avignon, Normal School	29.79	756.7	29.87	758.7	80.1	26.7	37	N			0		0			0	0	Very clear	Mr. Giraud, Director.
Bar-sur-Seine	29.38	746.2	29.93	760.1	68.5	20.3	48	W			1		10kn		W	0	0	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.63	752.5	29.90	759.4	72.9	22.7	53	SW			3		10		WNW	0	0	Covered	Normal School.
Besançon	29.07	738.4	29.94	760.4	67.3	19.6	68	SSE			2		6		NW	0.169	4.8	Cloudy	Normal School.
Bourg-en-Bresse	29.15	740.5	30.09	764.2	75.2	24	74	NE			6		6ck		NE	0	0	Cloudy	Normal School.
Bourges, Normal School	29.30	746.5	29.98	761.4	72.7	22.6	64	SSW			2		kn		SSW	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.72	755.0	29.97	761.2	69.8	21.0	71	NW			3		10		NW	0.079	2.00	Hazy	The Staff.
Carcassonne, Normal School	29.63	750.0	29.89	759.1	75.2	24	53	W			2		5		W	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.28	743.8	29.83	757.6	72.5	22.5	77	W			2		9		E	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.57	751.0	29.87	758.8	70.5	21.4	60	Calm			0		8ck			0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.64	727.5	29.95	760.8	70.7	21.5	50	W			3		8		NW	0.016	0.4	Very cloudy	Alluard, Director.
Commercy, Normal School	29.06	738.2	29.93	760.1	65.5	18.6	72	WNW			6		5		ESE			Light rain	Dr. Coulet, Director.
Commune de Grèasque*	28.75	730.2	29.89	759.2	78.1	25.6	50	NW			8		0			0	0	Clear	M. Klua.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.78	756.4	29.99	761.7	72.3	22.4	66	WNW			4		8		NW	0.110	2.8	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.65	753.0	29.95	760.6	66.9	19.4	79	SW			2		8		SW	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.03	737.3	29.91	759.8	70.7	21.5	55	NNE			2		2		W	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.93	759.4	30.00	761.9	72.0	22.2	64	S			3		8		NW	0.043	1.1	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.26	743.1	29.92	760.0	74.1	23.4	58				2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	28.89	733.8	29.90	759.5	68.2	20.1	72	NNW			2		5		NNE	0	0	Cloudy	Normal School
Nismes, Normal School	29.04	752.9	29.83	757.7	80.2	26.8	33	N			6		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.56	750.8	29.93	760.1	77.9	25.5	67	SW			2		5		SW	0	0	Cloudy	Bernard, Director.
Paris, Observatory	29.66	753.3	29.89	759.2	69.6	20.9	50	W			2		9		W	0.006	0.15	Almost cov'd	National Observatory.
Privas	28.87	733.2	29.89	759.2	74.3	23.5	40	NW			6		2		NW	0	0	Slightly cl'dy	Normal School
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.01	762.0	30.03	762.8	75.2	24.0	51	W			6		5		W	0.08	2.	⅝ Covered	Lt. Decante, Director.
Rouen, Normal School	29.80	756.8	29.88	759.0	67.6	19.8	68	W			2		10		SW	0.055	1.4	Covered	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.97	735.9	30.03	762.7	66 2	19	81	ESE			2		10			0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.21	742.0	30.10	764.5	70.7	21.5	71	NW			4		8		NW	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.90	759.5	78.8	26										0	0		L'Abbé Marchès.
Lyons																			L. Jays.
Marseilles, Observatory			29.76	756.0	77.9	25.5	26	NW			6-8		1			0	0		The Staff.
Mont-Louis	24.89	632.3	30.21	767.3	60.8	16.0	52	NNW	9.3	4.17			4		SW	0	0		M. Cave.
Nice			29.73	755.2	77.0	25.0	51	NE			2		1			0.079	2.0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.61	752.2	29.89	759.2	68.7	20.4	57	W			3		10		WSW	0.008	0.2		Marié Davy, Director
Perpignan			29.97	761.2	77.4	25.2	53	NW	29.8	13.33			1		NW	0.016	0.4		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.06	575.6			42.8	6.0		St			2		10			0.748	19.0	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.73	755.2	29.90	759.4	69.1	20.6	52	W			2		10		W	0.181	4.6		E. Renou.
Toulouse, Observatory	29.36	745.7	30.08	764.1	68.5	20.3	76	NW			3		7			0.059	1.50		The Staff.
Tours	29.73	755.1	29.93	760.1	68.4	20.2	80	W			1		10		W	0.039	1.0		C. Marquet.
Versailles, (near Paris)			29.90	759.4	72.3	22.4	41	W			1		9			0	0	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.82	757.4	29.84	758.0	81.3	27.4	96	Calm	0	0			0			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.90	734.1	29.74	755.3	64.8	18.2	81	WNW	.....	.....	2	.....	10	.....	.....	0.79	20.	Raining.....	Prof. Dr. Hoh.
Berlin	29.65	753.1	29.82	757.3	74.5	23.6	33	NE	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.31	744.4	29.84	757.8	72.7	22.6	32	SE	.....	.....	3	.....	2	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.44	747.8	29.85	758.3	68.0	20.0	69	SE	.....	.....	1	.....	10	.....	.....	0.071	1.8	.....	Albert Senz.
Cassel	29.27	743.4	29.87	758.8	62.2	16.8	88	NNW	.....	.....	1	.....	8	SW	.....	0.578	14.67	.....	Dr. H. Möhl.
Crefeld	29.65	753.2	29.82	757.3	69.4	20.8	58	SW	.....	.....	4	.....	9n	.....	.....	0	0	.....	Director Lose.
Emden	29.71	754.6	29.75	755.6	71.6	22.0	72	S	.....	.....	0	.....	9	.....	.....	0.035	0.9	.....	Prof. Prestel.
Frankfort on the Main	29.53	750.1	29.89	759.1	67.6	19.8	.....	N	.....	.....	1	.....	10	.....	.....	0.142	3.6	Raining.....	Physical Society.
Friedrichshafen	28.50	724.0	29.92	759.9	60.8	16.0	85	WNW	.....	.....	.....	.....	10	NW	.....	0.193	4.9	Raining.....	M. Wilhelm.
Hamburg	29.77	756.2	29.84	758.0	60.1	15.6	87	Calm	.....	.....	0	.....	10	.....	.....	0.035	0.9	Light rain....	Captain F. Hegemann.
Kiel	29.81	757.1	29.82	757.5	63.9	17.7	76	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.84	758.0	29.93	760.1	67.1	19.5	41	NE	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. E Luther.
Köslin	.....	.....	29.93	760.1	68.5	20.3	.....	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.35	745.5	29.75	755.6	77.7	25.4	42	NNW	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.88	758.9	29.93	760.1	64.6	18.1	58	W	.....	.....	4	.....	2ck	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.94	760.5	29.96	760.9	63.7	17.6	42	NE	.....	.....	3	.....	3	.....	.....	0	0	.....	A. Lothes.
Posen	29.63	752.5	29.91	759.6	72.3	22.4	31	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.36	745.8	29.89	759.3	69.3	20.7	56	N	.....	.....	2	.....	10	W	.....	0.435	11.06	Raining	Astronomical Observatory.
Stuttgart	28.95	735.4	29.87	758.8	63.5	17.5	72	W	.....	.....	1	.....	10	.....	.....	0.276	7.0	Raining	Prof. Schoder.
Treves, (Trier)	29.23	742.4	29.74	755.5	70.7	21.5	47	W	.....	.....	4	.....	7	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.34	719.9	29.78	756.3	57.9	14.4	90	NW	2	1	.....	.....	10	.....	NW	2.913	74.0	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.83	757.7	29.87	758.7	72.3	22.4	30	SE	.....	.....	3	.....	4	.....	.....	0	0	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.36	745.8	29.73	755.1	94.5	34.7	.....	SW	.....	.....	4.0	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Cooperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.1	29.46	748.4	86.4	30.2	75	SW	30?	13.4?	.....	.....	7	.....	SW	0	0	D. clouds,....	
Deesa	29.06	738.2	29.53	750.1	80.7	27.1	96	SSE	.....	.....	.....	.....	10	.....	SSE	0.61	15.5	Showery.....	
Bombay	29.66	753.3	29.70	754.2	82.4	28.0	85	WSW	24	10.7	.....	.....	10	.....	WSW	0.23	5.8	Overcast.....	
Poona	29.71	703.8	29.71	754.7	74.6	23.7	87	W	.....	.....	.....	.....	10	.....	W	0.46	11.7	Overcast.....	
Lahore	28.72	729.5	29.44	747.8	89.1	31.7	61	SE	6.8	3.0	.....	.....	8	.....	.....	0	0	.....	
Belgaum	27.25	692.1	29.80	756.9	71.9	22.2	91	W	19	8.5	.....	.....	9	NE	W	0.73	18.5	Showery.....	
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Roorkee	28.63	727.2	29.51	749.6	84.8	29.3	74	Calm	5.2	2.3	.....	.....	5	.....	.....	0.32	8.1	.....	
Agra	28.92	734.6	29.46	748.3	96.6	35.9	45	E	4	1.8	.....	.....	.....	.....	E	0	0	.....	
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nagpur	28.49	728.7	29.53	749.9	80.1	26.7	79	WNW	8.6	3.8	.....	.....	9	.....	E	0	0	Gloomy.....	
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Lucknow	29.14	740.0	29.50	749.2	90.2	32.3	60	N	9.6	4.3	.....	.....	10	.....	.....	0	0	Overcast....	
Allahabad	29.17	740.9	29.47	748.6	86.7	30.4	77	E	7.6	3.4	.....	.....	1	.....	.....	0.08	2.0	D. clouds.....	
Patna	29.36	745.7	29.54	750.3	80.7	27.1	86	E	3.3	1.5	.....	.....	6	E	E	0.55	14.0	D. clouds....	
Hazaribagh	27.51	695.6	29.51	749.4	75.3	24.1	90	ESE	13.3	5.9	.....	.....	10	.....	E	1.27	32.3	Raining.....	
Cuttack	29.42	747.3	29.50	749.3	80.8	27.1	85	Calm	1.8	0.8	.....	.....	9	.....	.....	2.18	55.4	Showery.....	
Calcutta (Alipore)	29.56	750.8	29.58	751.4	81.5	27.5	87	SSE	11.0	4.9	.....	.....	10	.....	SE	0	0	Overcast....	
Goalpara	29.30	744.3	29.69	754.2	79.7	26.5	93	ESE	5.8	2.6	.....	.....	9	.....	.....	0.75	19.0	D. clouds....	
Chittagong	29.62	752.5	29.72	754.8	81.7	27.6	83	SE	7.1	3.2	.....	.....	10	.....	.....	0	0	Gloomy.....	
Sibsagar	29.36	745.8	29.69	754.2	84.0	28.9	83	ENE	2.2	1.0	.....	.....	10	.....	.....	0	0	D. clouds....	
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Jubbulpore	28.12	714.3	29.47	748.5	80	26.7	87	NW	4.3	1.9	.....	.....	10	.....	.....	0.36	9.1	D. clouds.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.031 inch or 0.78 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall, or melted snow in the past 24 hours. Inches.	Rain-fall, or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.24	742.8	29.64	752.8	70.7	21.5	84	N	0.7	0.3	.....	.....	10	.....	.....	0.067	1.7	.....	Prof. Giovanni Clodig.
Padua	29.56	750.9	29.67	753.6	70.0	21.1	86	NNE	2.5	1.1	.....	.....	10	NE	.....	0.024	0.6	.....	Prof. Bolt. Lorenzoni
Vicenza	29.49	749.1	29.68	753.8	70.7	21.5	71	NW	3.1	1.4	.....	.....	10	S	.....	0.071	1.8	.....	Conte Alm. Da Schio.
Bergamo	28.41	721.7	29.67	753.6	72 0	22.2	64	NW	.....	.....	4	.....	8	.....	.....	1.992	50.6	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	28.82	732.1	29.09	754.1	73 4	23.0	69	SSW	4.9	2.2	.....	.....	6	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.86	707.6	29.69	754.0	71.1	21.7	49	NW	.....	.....	2	.....	8	.....	.....	1.091	27.7	.....	Prof. D. C. Bruno.
Porto Maurizio	29.60	749.9	29.71	754.7	79.5	26.4	45	S	.....	.....	2	.....	6	NE	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.46	748.3	29.66	753.4	76.1	24.5	50	N	.....	.....	2	.....	2	NW	.....	0.126	3.2	.....	Prof. G. M. Garibaldi.
Parma	29.36	745.8	29.67	753.5	74.1	23.4	51	NNW	.....	.....	4	.....	3	.....	.....	0.425	10.8	.....	Prof. P. Pigorini.
Florence	29.41	747.0	29.65	753.2	80.2	26.8	29	WSW	.....	.....	4	.....	1	.....	.....	0.016	0.4	.....	Cav. F. Meucci.
Leghorn	29.60	751.8	29.68	753.8	74.3	23.5	58	W	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.60	751.7	29.64	752.9	74.5	23.6	70	NE	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.16	715.2	29.65	753.1	67.3	19.6	77	NE	.....	.....	1	.....	10	.....	.....	0.236	6.0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.50	749.4	29.67	753.7	77.0	25.5	44	W	18.6	8.3	.....	.....	6	.....	.....	0.122	3.1	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.55	750.5	29.74	755.3	75.4	24.1	49	SW	.....	.....	4	.....	8	SW	.....	0.366	9.3	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	72.7	22.6	49	SW	15.0	6.7	.....	.....	10	.....	.....	0.524	13.3	.....	Prof. C. De Giorgi.
Cagliari	29.57	751.1	29.76	755.8	78.1	25.6	38	NW	.....	.....	6	.....	6	NW	.....	0.004	0.1	.....	Prof. A. Pacinotti.
Cosenza	28.90	734.1	29.74	755.4	71.6	22.0	71	NE	4.3	1.9	.....	.....	10	.....	.....	0.913	23.2	.....	Prof. F. D. Conti.
Palermo	29.55	750.5	29.79	756.7	81.5	27.5	52	WNW	16.1	7.2	.....	.....	8	.....	.....	0.063	1.6	.....	Prof. G. Cacciatore.
Syracuse	29.66	753.4	29.74	755.3	80.4	31.9	39	SSE	.....	.....	6	.....	8	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.19	741.5	29.75	755.6	74.8	23.8	61	WSW	2.5	1.1	.....	.....	6	.....	.....	0.453	11.5	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.74	755.4	29.94	760.5	78 6	25.9	92	WSW	0.3	0.1	.....	.....	2s	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) Observatory	29.82	757.4	29.89	759.2	78.0	25.6	84	SSW	4.0	1.8	.....	.....	8s	.....	.....	0	0	Cloudy	
Tokei (Yeddo) University	29.78	756.4	29.87	758.8	79	26.1	91	SSW	4	1.8	.....	.....	8s	.....	.....	0	0	Fair	Prof. F. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascallentes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.7	18.2	91	NW	5.1	2.3	.....	0	5ks	.....	NW	2.11	53.6	½ cloudy	L. Castillo, A. E.
Guadalajara	25.08	637.0	30.04	762 9	68.6	14.8	89	N	0.9	0.4	.....	0	3	.....	SE	0.96	25.0	Clear	Prof. L. Perez.
Guanajuato	23.70	602.0	29.84	758.0	65 3	18.5	82	Calm	0	0	.....	8	0	.....	.....	0.30	7.6	Cloudy	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.5	18 0	89	NNW	0.9	0.4	.....	1c	1k	NW	.....	0.52	10.4	Clear	Prof. M. Leal.
Mexico	23.11	587.0	30.03	762.7	62.6	17.0	74	Calm	0	0	.....	1c	1k	.....	.....	0.04	1.0	Fair	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.6	17.0	91	Calm	0	0	.....	0	10n	.....	.....	0	0	Foggy	M. V. de Leon, M. E
Puebla	23.34	592.9	29.99	761.7	57.7	14.3	88	E	3.1	1.4	.....	0	10n	.....	.....	0.33	8.5	Covered	Prof. B. Gonsales.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velasquez.
Tlacotalpam	29.83	757.7	29.84	758.0	81 5	27.5	88	S	1.8	0.8	.....	6ck	8k	S	.....	0	0	Cloudy	Prof. F. R. Bayly.
San Luis Potosi	24.21	614 3	30.06	763.4	68.0	18.9	76	Calm	0	0	.....	6	1	W	W	0.25	6.4	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.86	758.4	29.89	759.1	82.4	28.0	85	NW	.....	.....	.....	2ck	3sk	.....	.....	Inap.	Inap.	½ cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	82	SSW	5.1	2.3	.....	0	10	.....	SW	0	0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.28	591.2	30.02	762.6	57.2	14.0	77	NE	2.2	1.0	.....	10	0	NE	.....	Inap.	Inap.	Cloudy	Prof. P. Spina, [illegible]
Morelia	24.09	612.0	.....	.....	66.2	19.0	67	NE	.....	.....	.....	3c	0	E	.....	0.01	0.3	Clear	M. Tena, F. L. Paramo,
Durango	24.21	614.8	29.99	761.8	68.0	20.0	85	SW	0.9	0.4	.....	9ck	0	.....	.....	0.07	1.9	Very cloudy	M. V. de Leon, C. E.
Colima	28.40	721.4	30.02	762.6	78.8	26.0	77	.....	.....	.....	.....	.....	.....	.....	.....	0	0	½ cloudy	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.83	757.6	29.83	757.6	70.9	21.6	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.72	755.0	29.78	756.4	67.1	19.5	.....	S	.....	.....	1	.....	.....	.....	.....	0.461	11.7	.....	
Helder	29.75	755.6	29.75	755.6	69 1	17.3	.....	SSW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.75	755.6	29.75	755.6	69.1	17.3	84	W	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.76	756.0	29.81	757.2	62.1	16.7	93	SSW	.....	.....	2	.....	10	.....	.....	0.094	2.4	Dull	H. v d Bruk.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilogrames per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.67	753.7	29.73	755.1	69.8	21.0	41	N	3.1	1.4	.....	.....	5	.....	.....	0.236	6.0	Light rain...	
Brönö	29.73	755.2	29.77	756.2	57.9	14.4	70	NNE	18	8	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.63	752.7	29.78	756.3	71.2	21.8	36	SSW	18	8	.....	.....	2	.....	.....	0	0	.....	
Tromsö	29.78	756.5	29.83	757.6	50.9	10.5	67	N	7	3	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.20	767.1	30.39	771.9	73.8	23.2	73	SW	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.05	737.8	30.00	761.9	95.0	35.0	17	E	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.10	764.5	30.19	766.7	74.8	23.8	69	SW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.71	754.7	30.06	763.4	82.8	28.2	44	NNE	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.32	770.0	30.39	771.8	74.1	23.4	73	SE	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 12° 34′, E. 13° 20′	.....	.....	30.05	763.2	69.8	21.0	.....	W	.....	.....	2	.....	4	.....	W	1	.....	D. clouds....	A. J. de Mattos, Com'd't
Rio Douro, S. 25° 58′, E. 32° 37′	.....	.....	30.15	765.7	72.5	22.5	.....	E	.....	.....	5	.....	0	.....	.....	4	E	Blue sky.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	29.99	761.7	80.6	27.0	.....	NNE	.....	.....	3	.....	2	.....	NNE	1	NNE	D. clouds....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.96	761.0	72.5	22.5	.....	NNW	.....	.....	1	.....	10	.....	.....	1	.....	Misty..	F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.47	748.6	29.88	759.0	65.7	18.7	46	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.53	750.1	29.94	760.5	61.7	16.5	40	NW	4	2	.....	.....	4	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.60	751 8	29.83	757.7	65.1	18 4	42	NW	7	3	.....	.....	5k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.72	755.0	29.74	755.4	58.5	14.7	60	WNW	16	7	.....	.....	7n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Knopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10k;ks;c	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.26	743.2	29.88	758.9	64.6	18.1	47	NNE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.85	758 3	29.93	760.1	75.9	24.4	42	NW	4	2	.....	.....	4	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.89	759.3	29.91	759.8	75.7	24.8	62	NE	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.27	743.4	29.81	757.1	67.9	14.4	63	NNE	11	5	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.63	752.5	29.83	757.6	67.8	19.9	41	NW	13	6	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.51	749.5	29.53	750.0	52 3	11.3	76	WNW	9	4	.....	.....	1cs	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.34	719.8	29.65	753.2	89.1	31.7	15	NNW	45	20	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.82	757.3	29.73	755.2	80.8	27.1	54	N	7	3	.....	.....	.....	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	Light hail....	Cand. Fatjanow.
Kasan	29.35	745.4	29.60	751.9	64.9	18.3	66	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	.....	.....	.....	Raining.....	Tschernischef.
Ekaterinburg	28.82	731.9	29.73	755.1	64.0	17.8	89	WSW	45	20	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.39	746.6	29.61	752.1	88.0	31.1	35	NNW	11	5	.....	.....	.....	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.09	713.5	29.67	753.5	87.4	30.8	47	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining.....	Michelson.
Barnaul	29.20	741.6	29.69	754.2	73.2	22.9	58	SE	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.46	747.9	29.72	754.8	86.2	30.1	46	NE	2	1	.....	.....	.....	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3ks	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.55	750.5	29.69	754.1	85.5	29.7	86	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 424.2? m., or 1,621.3? ft.; Irkutsk, 892 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 8° 31′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.95	760.8	77.4	25.2	63	S	4.1	1.83	.....	2	.....	.....	.....	0.015	0.38	Clear.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.10	764.5	30.15	765.9	73.8	23.2	75	NW	4.6	2.04	.....	1	7	NE	.....	0.114	2.9	Almost cov..	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.23	691.7	.....	.....	74.3	23.5	58	SW	4.5	1.99	.....	.....	5	.....	.....	0	0	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.88	708.2	29.97	761.2	88.5	31.4	31	NW	4.5	2.00	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.81	757.2	29.95	760.8	97.5	36.4	35	SSE	3.1	1.39	.....	2	3	WNW	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.30	744.3	30.17	766.4	71.4	21.9	69	NNE	11.5	5.14	.....	.....	5	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.86	758.4	29.92	760.0	84.2	29.0	78	Calm	0	0	.....	1cs	1k	.....	.....	0	0	Clear.....	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.4	30.03	762.8	78.8	26.0	59	SSW	13.1	5.9	.....	0	1	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.1	30.02	762.4	79.9	26.6	69	SE	0	0	.....	2s	0	SE	.....	0.079	2.00	Clear.....	Leonardo de Tejada, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.72	755.0	29.76	756.0	54.7	12.6	.....	N	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.72	754.9	29.89	759.2	56.5	13.6	68	SE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	29.69	754.1	29.74	755.4	60.4	15.8	68	E	.....	.....	6	.....	0	.....	.....	0	0	.....	
Stockholm	29.60	751.7	29.77	756.2	72.0	22 2	35	WSW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.79	756.6	29.85	758.1	64.4	18.0	71	WNW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.70	754.4	29.78	756.3	75.7	24.3	24	WNW	8.7	3.9	.....	.....	3	NW	WNW	0	0	.....	Dr. Hildebrandsson.

Note.—The origin..ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	724.8	29.02	760.0	67.8	19.9	65	E	.....	.....	1	.....	9	.....	.....	0.016	0.4	Covered	The Observatory.
Zurich	28.33	719.6	29.05	760.7	60.1	15.6	90	SE	.....	.....	2	.....	10	.....	SW	0.165	4.2	Rainy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.0 mm.; Thermometer, —2.7 cent.; Relative Humidity, +12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.80	757.0	83.5	28.6	59	.ENE	18	8.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.87	758.8	76.1	24.5	.....	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.59	751.6	29.71	754.5	87.3	30.7	68	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.67	753.6	29.74	755.4	65.9	18.8	88	NE	6	2.7	.....	5k	5n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.40	746.7	29.70	754.4	67	19.4	.....	SW	3	1.3	.....	.....	10s	.....	SW	0.10	2.5	Light rain...	W. R. Bigg.
*Chatham, N B	29.70	754.4	29.76	755.9	61	16.1	97	Calm	0	0	.....	5cs	5s	SW	SW	0.07	1.8	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.74	755.4	29.78	756.4	65	18.3	84	S	12	5.4	.....	.....	8ks	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.50	749.3	29.68	753.9	66.4	19.1	93	W	.....	.....	3	.....	10s	.....	.....	0.370	9.40	Overcast.....	James Smith, M. A
Dalhousie, N. B	29.58	751.3	29.74	755.4	66.5	19.2	81	E	.....	.....	2	.....	.....	.....	.....	0.32	8.1	Fine	H. A. Johnson.
Esquimault, B. C	29.92	760.0	29.97	761.2	56.2	13.4	100	W	.....	.....	.....	2s	0	.....	.....	0	0	Fair.....	W. H. Bevis.
*Father Point, Quebec	29.70	754.4	29.72	754.9	55	12.8	97	Calm	0	0	.....	.....	Fog	.....	.....	0.30	7.6	Foggy.....	J. McWilliams.
Fredericton, N. B	29.72	754.9	29.78	756.4	65.0	18.3	85	SE	2	0.9	.....	.....	Sm'e	.....	.....	0.08	2.0	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.04	737.6	29.84	757.9	60	15.6	94	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.60	726.4	29.65	753.1	63	17.2	100	E	.....	.....	2	.....	10n	.....	.....	0.39	9.9	Raining	James Grant.
*Halifax, N. S	29.72	754.9	29.84	757.9	64	17.8	82	SW	12	5.4	.....	5ck	0	W	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.35	745.5	29.71	754.6	66.7	19.3	92	E	.....	.....	2	10ks	0	W	.....	0.12	3.0	Raining	Geo. Dickson, M. A.
Heart's Content, N. F	29.94	760.5	29.96	761.0	62	16.7	83	SW	.....	.....	3	.....	10	.....	.....	0	0	Overcast.....	E. Weedon.
*Kingston, Ontario	29.40	746.7	29.72	754.9	67	19.4	95	SW	12	5.4	.....	.....	10n	.....	SW	0.11	2.8	Light rain...	S. Woods, M. A.
Little Glace Bay, N. S	29.80	756.9	29.84	757.0	67.0	19 4	.....	SW	14	6.3	.....	8k	0	SW	.....	0	0	Squally.....	C. H. Rigby.
*Montreal, Quebec	29.52	749.8	29.71	754.6	65	18.3	92	Calm	0	0	.....	.....	10n	.....	.....	0.03	0.8	Light rain...	C. H. McLeod, C. E
*Parry Sound, Ontario	28.98	736.1	29.65	753.1	66	18.9	99	SW	5	2.2	.....	.....	10n	.....	S	0.05	1.3	Light rain...	Rev. R. Mosley.
Peterboro, Ontario	28.97	735.8	29.69	754.1	66.5	19.2	92	Calm	.....	.....	0	.....	10n	.....	.....	.....	.....	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.02	737.1	29.69	754.1	66	18.9	95	E	3	1.3	.....	.....	10n	.....	W	0.15	3.8	Light rain...	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.07	738.4	29.69	754.1	65	18.3	94	E	4	1.8	.....	.....	10n	.....	SW	0.22	5.6	Light rain..	M. Payne.
*Quebec, Quebec	29.43	747.5	29.74	755.4	62	16.7	94	Calm	.....	.....	0	.....	10n	.....	Calm	0.62	20.8	Clearing.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.25	742.9	29.70	754.4	59	15.0	91	E	6	2.7	.....	.....	10s	.....	SE	0.98	24.9	Light rain...	W. H. McIntyre.
St. Andrews, N. B	29.71	754.6	29.76	755.9	61	16.1	91	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	29.63	752.6	29.79	756.7	59	15.0	85	S	8	3.6	.....	.....	10ks	.....	.....	0.646	18.85	Cloudy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.05	735.3	29.64	752.8	65	18.3	93	S	6	2.7	.....	.....	10ks	.....	S	0.37	9.4	Light rain...	K. Stewart.
Stayner, Ontario	28.88	733.5	29.62	752.3	65	18.3	94	SE	1	0.4	.....	.....	10n	.....	SE	0.38	9.7	Light rain...	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.53	757.7	29.86	758.4	67	19.4	82	S	11	4.9	.....	8ck	Haze	SW	.....	0	0	Fair.....	T. C. Hill.
*Toronto, Ontario	29.34	745.2	29.71	754.6	66	18.9	95	S	1	0.4	.....	.....	10n	.....	W	0.28	7.1	Light rain ..	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			J. Montgomery.
St. Johns, Newfoundland	.....	.....	.....	.....	72.0	22.2	67	SW	.....	.....	.....	2k	2s	.....	.....	Inap.	Inap.	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Upper. 0—10.	CLOUDS. Amount. Low'r. 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.55	750.6	29.77	756.1	69	20.6	85	SE	3	1.3	.....	.....	10s	.....	SW	0.04	1.0	Cloudy	
Alpena, Michigan	29.02	737.1	29.63	752.6	66	18.9	94	Calm	0	0	.....	.....	10n	.....	Calm	0.69	17.5	Light rain	
Atlantic City, New Jersey	29.86	758.4	29.88	758.9	73	22.8	85	S	14	6.3	.....	0	Haze	.....	Calm	0	0	Clear	
Augusta, Georgia	29.80	756.9	29.97	761.2	81	27.2	66	Calm	0	0	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Baltimore, Maryland	29.78	756.4	29.82	757.4	76	23.9	68	SW	7	3.1	.....	2c	Haze	Calm	Calm	0	0	Fair	
Barnegat, New Jersey	29.85	758.2	29.87	758.7	75	23.9	77	SW	18	8.0	.....	2ck	0	SW	.....	0	0	Fair	
Bismarck, Dakota	28.16	715.3	30.01	762.2	62	16.7	77	N	2	0.9	.....	0	5s	.....	N	Inap.	Inap.	Fair	
BoiseCity, Idaho	27.03	686.6	29.91	759.7	66	18.9	48	SE	4	1.8	.....	2ck	5s	Calm	SW	0	0	Fair	
Boston, Massachusetts	29.68	753.9	29.83	757.7	71.5	21.9	75	SW	14	6.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Brackettville, Texas	28.63	727.2	29.59	751.6	82	27.8	75	SE	7	3.1	.....	2ck	5s	Calm	S	0	0	Cloudy	
Breckenridge, Minnesota	28.81	731.8	29.77	756.1	60	15.6	94	N	11	4.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Brownsville, Texas	29.73	755.1	29.80	756.9	83	28.3	87	SE	4	1.8	.....	2c	2ks	Calm	SE	0	0	Fair	
Buffalo, New York	29.00	736.6	29.69	753.4	66	18.9	84	NE	6	2.7	.....	.....	10n	.....	Calm	0.15	3.8	Light rain	
Burkes, Arizona	.....	.....	.....	.....	80	26.7	48	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.49	749.0	29.73	755 1	69	20.6	84	S	8	3.6	.....	.....	10n	.....	W	0.19	4.8	Light rain	
Cairo, Illinois	29.33	745.0	29.70	754.4	79	26.1	82	SW	12	5.4	.....	.....	10s	.....	SW	0.15	3.8	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	59	15.0	48	NE	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Camp Grant, Arizona	25.13	638.3	29.03	760.2	73	22.8	39	NW	.....	.....	2	2c	0	SW	.....	0	0	Clear	
Camp Verde, Arizona	26.65	676.9	30.14	765.5	70	21.1	40	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.32	693.9	29.89	759.2	43	6.1	83	E	.....	.....	1	c	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.99	761.7	30.00	762.0	78	25.6	65	SE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	74	23.3	76	S	18	8.1	.....	0	5s	SW	.....	0	0	Fair	
Cape Lookout, N. Carolina	29.98	761.5	29.99	761.7	81	27.2	67	SW	7	3.1	.....	5k	0	S	.....	0	0	Fair	
Cape May, New Jersey	29.85	758.2	29.88	758.9	74	23.3	81	S	18	8.0	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.01	736.8	29.67	753.6	80	26.7	82	SE	3	1.3	.....	.....	10ks	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.95	760.7	30.01	762.2	80	26.7	74	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.12	612.6	30.03	763.5	56	13.3	87	N	12	5.4	.....	2ck	5s	N	N	0.11	2.8	Cloudy	
Chicago, Illinois	28.79	731.3	29.43	747.5	68	20.0	84	E	12	5.4	.....	.....	10s	.....	Calm	4.14	105 2	Cloudy	
Cincinnati, Ohio	28.98	736.1	29.57	751.1	81	27.2	65	S	13	5.8	.....	.....	10ks	.....	SW	0	0	Threatening	
Cleveland, Ohio	28.92	734.6	29.60	751.8	71	21.7	80	SE	6	2.7	.....	.....	10n	.....	SW	0.20	5.1	Light rain	
Columbus, Ohio	28.84	732.5	29.58	751.3	79	26.1	61	S	.....	.....	2	.....	10s	.....	Calm	0	0	Cloudy	
Conchо, Texas	27.90	708.6	29.48	748.8	76	24.4	76	SW	4	1.8	.....	2c	5ks	Calm	SW	0	0	Fair	
Corsicana, Texas	29.33	745.0	29.77	756.1	78	25.6	91	S	6	2.7	.....	0	2s	.....	Calm	0	0	Clear	
Davenport, Iowa	28.94	735.1	29.54	750.3	67	19.4	89	NE	5	2.2	.....	.....	10n	.....	NE	0.07	1.8	Light rain	
Denison, Texas	28.98	736.1	29.73	755.1	78	25.6	86	SW	5	2.2	.....	5k	2s	S	Calm	6	0	Fair	
Denver, Colorado	24.87	631.7	30.09	764.3	61	16.1	82	SW	4	1.8	.....	.....	8s	.....	Calm	0.10	2.5	Cloudy	
Detroit, Michigan	28.93	734.8	29.56	750.8	69	20.6	90	SE	5	2.2	.....	.....	10n	.....	SE	0.32	8.1	Light rain	
Dodge City, Kansas	27.28	692.9	29.44	747.8	70	21.1	90	N	8	3.6	.....	8ck	2ks	W	N	0.04	1.0	Cloudy	
Dubuque, Iowa	28.91	734 3	29.56	750.8	70	21.1	90	NE	3	1.3	.....	.....	10ks	.....	NE	0.56	14.2	Cloudy	
Duluth, Minnesota	29.06	738.1	29.70	754.4	65	18.3	83	N	5	2.2	.....	.....	10s	.....	N	0.02	0.5	Cloudy	
Eagle Pass, Texas	29.04	737.6	29.73	755.1	84	28.9	75	Calm.	0	0	.....	10k	0	Calm	.....	0	0	Cloudy	
Eastport, Maine	29.69	754.1	29.76	755.9	60	15.6	77	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	77	25.0	69	Calm	0	0	.....	0	5s	.....	.....	0.09	2.3	Fair	
Erie, Pennsylvania	28.95	735.3	29.62	752.3	70	21.1	90	W	2	0.9	.....	.....	10n	.....	.....	0.04	1.0	Light rain	
Escanaba, Michigan	29.02	737.1	29.64	752.8	61	16.1	82	N	8	3.6	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Florence, Arizona	.....	.....	.....	.....	84	28.9	50	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25 44	646.2	29.50	749 3	71	21.7	72	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.11	637.8	30.07	763.8	68	20.0	84	S	4	1.8	.....	5k	0	SE	.....	0.48	12.2	Fair	
Fort Gibson, Indian Ter	29.18	741.2	29.69	754.1	76	24.4	95	S	4	1.8	.....	2ck	5ks	W	S	0.27	6.9	Threatening	
Fort Griffin, Texas	28.41	721.6	29.59	751.6	79	26.1	78	S	4	1.8	.....	2cs	5s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Fort Sill, Indian Territory	28.55	725.2	29.58	751.3	78	25.6	82	SW	3	1.3	.....	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Galveston, Texas	29.81	757.2	29.85	758.2	85	29.4	76	SE	7	3.1	.....	0	0	.....	.....	Inap	Inap	Clear	
Grand Haven, Michigan	28.92	734.6	29.53	750.0	65	18.3	94	E	8	3.6	.....	.....	10n	.....	Calm	0.70	17.8	Light rain	
Indianapolis, Indiana	28.76	730.5	29.48	748 8	75	23 9	86	SW	12	5.4	.....	.....	10n	.....	SW	0.42	10.7	Light rain	
Indianola, Texas	29.80	756.9	29.82	757.4	86	30.0	76	S	10	4.5	.....	1k	0	S	.....	0	0	Clear	
Jacksboro, Texas	28.65	727.7	29.79	754.4	80	26.7	66	SW	12	5.4	.....	4ck	0	SW	.....	0	0	Fair	
Jacksonville, Florida	29.93	760.2	29.95	760.7	83	28.3	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	28.87	733.8	29.45	748.0	76	24.4	91	W	7	3.1	.....	.....	10s	.....	W	0.95	24.1	Cloudy	
Key West, Florida	29.89	759.2	29.92	760.0	84	28.9	75	SE	7	3.1	.....	0	8ks	.....	Calm	0.02	0.5	Fair	
Kittyhawk, North Carolina	29.94	760.5	29.96	761.0	78	25.6	78	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	28.89	733.8	29.81	757.7	79	26.1	66	Calm	0	0	.....	2ck	5ks	SW	SW	0	0	Cloudy	
La Crosse, Wisconsin	28.89	733.8	29.58	751.3	68	20.0	95	N	4	1.8	.....	.....	10s	.....	N	0.25	6.3	Cloudy	
La Mesilla, New Mexico	29.95	659.1	30.10	764 5	67	19.4	84	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Laredo, Texas	29.34	745.0	29.65	753.1	83	28.3	71	SE	4	1.8	.....	10ck	0	Calm	.....	0	0	Cloudy	
Lead City, Dakota	24.89	632.2	.....	.....	57	13.9	87	N	1	0.4	.....	.....	10s	.....	N	0.29	7.4	Cloudy	
Leavenworth, Kansas	28.82	732.0	29.61	752.1	72	22.2	90	N	6	2.7	.....	8k	0	N	.....	0.56	14.2	Cloudy	
Los Angeles, California	29.51	749.5	29.84	757 9	62	16.7	88	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.09	738.9	29.90	751.8	81	27.2	67	SW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Lynchburg, Virginia	29.19	741.4	29.83	757.7	79	26.1	58	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	28.99	736.3	29.64	753.4	62	16.7	83	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Mason, Texas	28.20	716.3	29.85	758.2	79	26.1	86	SE	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Memphis, Tennessee	29.48	748.8	29.78	756.4	79	26.1	82	SW	5	2.2	.....	5c	1s	SW	SW	0.19	4.8	Fair	
Milwaukee, Wisconsin	28.84	732.5	29.53	750.0	67	19.4	89	E	17	7.6	.....	2cs	8s	NW	NW	0.02	0.5	Cloudy	
Mobile, Alabama	29.86	758.4	29.90	759.4	84.5	29.2	79	S	1	0.4	.....	7c;k	0	W;S	.....	0	0	Fair	
Montgomery, Alabama	29.70	754.4	29.92	760.0	81	27.2	78	Calm	0	0	.....	5cs	0	Calm	.....	0.20	5.1	Fair	
Morgantown, West Virginia	28.72	729.5	29.69	754.0	81	27.2	59	SW	7	3.1	.....	8c	0	NW	.....	0	0	Fair	
Mt. Washington, N. H.	23.72	602.5	30.08	764.0	48	8.9	92	NW	32	14.3	.....	.....	Fog	.....	NW	0.11	2.8	Foggy	
Nashville, Tennessee	29.26	743.2	29.75	755.5	85	29.4	61	SW	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	29.75	755.6	29.86	758.4	73	22.8	85	S	5	2.2	.....	8ck	2s	.....	S	0	0	Cloudy	
New London, Connecticut	29.83	757.7	29.88	759.2	84	28.9	75	SW	10	4.5	.....	.....	10s	.....	S	0	0	Cloudy	
New Orleans, Louisiana	29.85	757.7	29.89	759.2	84	28.9	75	N	4	1.8	.....	5k	0	NW	.....	0.16	4.1	Fair	
Newport, Rhode Island	29.85	758.2	29.90	759.4	70	21.1	85	SW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
New York, New York	29.60	754.1	29.86	758.4	75	22.8	81	SW	8	3.6	.....	0	8ks	.....	SW	0	0	Fair	
Norfolk, Virginia	29.89	759.2	29.95	760.7	78	25.6	69	S	11	4.9	.....	2ck	0	W	.....	0	0	Fair	
North Platte, Nebraska	27.02	686.3	29.48	748.8	66	18.9	82	NW	10	4.5	.....	5ck	0	NW	.....	0.16	4.1	Fair	
Olympia, Washington Ter.	29.97	761.2	30.01	762.2	51	10.6	86	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.61	726.7	29.62	752.3	70	21.1	95	N	9	4.0	.....	.....	10s	.....	NE	0.11	2.8	Cloudy	
Oswego, New York	29.45	748.0	29.76	755.9	69	20.6	85	S	4	1.8	.....	.....	10n	.....	.....	0.25	6.3	Light rain	
Pembina, Dakota	29.04	737.6	29.85	758.2	50	10.0	93	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.70	756.7	29.84	757.9	75	23.9	72	SW	19	8.5	.....	5ck	Haze	W	Calm	0	0	Fair	
Phœnix, Arizona	28.04	727.4	.....	.....	88	31.1	43	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.00	457.2	30.21	767.3	33	0.6	70	N	6	2.7	.....	8k	0	N	.....	0.50	12.7	Fair	
Ploche, Nevada	24.05	610.9	29.82	757.4	65	18.3	10	S	2	0.9	.....	0	0	W	.....	Inap.	Inap.	Fair	
Pittsburg, Pennsylvania	28.91	734.3	29.66	753.4	77	25.0	69	S	8	3.6	.....	5ck	0	.....	.....	0	0	Clear	
Port Huron, Michigan	28.95	735.3	29.58	751.3	62	16.7	94	NE	8	3.6	.....	.....	10n	.....	Calm	0.49	12.4	Light rain	
Portland, Maine	29.73	755.1	29.77	756.1	69	20.6	80	SW	5	2.2	.....	10k	Haze	W	.....	0.01	0.3	Cloudy	
Portland, Oregon	30.00	762.0	30.11	764.8	56	13.3	81	Calm	0	0	.....	.....	10ks	.....	NW	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.77	629.2	30.13	765.8	59	15.0	33	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.92	760.0	29.94	760.5	86	30.0	72	Calm	0	0	.....	2cs	2ks	W	Calm	0	0	Fair	
Red Bluff, California	29.43	747.8	29.77	756.1	73	22.8	39	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.12	739.6	29.69	754.1	68	20.0	84	S	2	0.9	.....	.....	10n fg	.....	Sw; Calm	0.21	5.3	Light rain	
Roseburg, Oregon	29.52	749.8	30.08	764.0	51	10.6	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.71	754.6	29.79	756.7	60	15.6	74	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.04	737.6	29.57	751.1	79	26.1	82	SW	16	7.2	.....	0	5s	.....	Calm	1.57	39.9	Fair	
St. Marks, Florida	29.92	760.0	29.93	760.2	80	26.7	87	SE	8	3.6	.....	5c	0	E	.....	0	0	Fair	
St. Paul, Minnesota	28.83	732.3	29.61	752.1	66	18.9	90	N	8	3.6	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Salt Lake City, Utah	29.57	649.5	29.90	759.4	66	18.9	60	SE	4	1.8	.....	2c	0	W	.....	0	0	Clear	
San Antonio, Texas	29.09	738.9	29.64	752.8	77	25.0	87	Calm	0	0	.....	5ck	5ks	S	Calm	0	0	Cloudy	
San Diego, California	29.80	756.9	29.87	758.7	63	17.2	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	28.97	735.8	29.60	751.8	71	21.7	85	NW	4	1.8	.....	.....	10n	.....	Calm	0.10	2.5	Light rain	
Sandy Hook, New Jersey	29.82	757.4	29.85	758.2	77	25.0	73	W	12	5.4	.....	8k	0	NW	.....	0	0	Cloudy	
San Francisco, California	29.78	756.4	29.85	758.2	54	12.2	87	S	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	57	13.9	57	Calm	0	0	.....	1k	0	Calm	.....	Inap.	Inap.	Clear	
Savannah, Georgia	29.89	759.2	29.93	760.5	82	27.8	75	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Shreveport, Louisiana	29.60	751.8	29.80	756.9	80	26.7	87	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.22	615.2	30.16	766.1	65	18.3	26	W	8	1.3	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.98	761.5	30.01	762.2	79	26.1	70	SE	5	2.2	.....	2k	0	SW	.....	0	0	Fair	
Springfield, Massachusetts	29.64	752.8	29.76	755.9	71	21.7	80	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	29.79	680.4	29.79	756.7	70	21.1	52	Calm	0	0	.....	8k	0	Calm	.....	0.10	2.5	Cloudy	
Thatcher's Island, Mass	29.78	756.4	29.83	757.7	62	16.7	94	SW	12	5.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Toledo, Ohio	28.89	738.8	29.52	749.8	70	21.1	90	NE	8	1.8	.....	.....	10n	.....	NE	0.55	14.0	Heavy rain	
Tucson, Arizona	27.33	694.2	29.88	758.9	84	28.9	49	N	.....	.....	1	5cs	0	Calm	.....	0	0	Fair	
Tybee Island, Georgia	29.93	760.2	29.96	761.0	82	27.8	75	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.54	750.3	.....	.....	68	20.0	51	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.04	752.8	29.88	758.9	83	28.3	79	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.33	618.0	29.81	757.2	51	10.0	79	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Visalia, California	29.44	747.8	29.80	756.9	65	18.3	73	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.78	755.1	29.84	757.9	77	25.0	69	S	14	6.3	.....	5c	0	W	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	67	19.4	42	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.91	759.7	29.99	761.7	76	24.4	81	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.56	649.2	29.92	760.0	52	11.1	35	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.86	758.4	29.91	759.7	70	21.1	84	S	14	6.3	.....	.....	10ks	.....	SW	0	0	Threatening	
Yankton, Dakota	28.52	724.4	29.74	755.4	67	19.4	89	NW	10	4.5	.....	10cs	0	NW	.....	0.01	0.3	Cloudy	
Yuma, Arizona	29.67	753.1	29.72	754.9	84	28.9	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.62	752.3	29.67	753.6	54.0	12.2	84	NW	21	9.4	.....	4k	2s	NW	NW	2.20	55.9	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.89	759.2	29.91	759.7	84	28.9	79	SE	1.2	0.5	.....	4c	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.10	764.5	30.11	764.8	78	25.6	95	SE	5	2.2	.....	.....	10n	SE	.....	1.26	32.0	.....	F. M. Everett.
Navassa, W. I.	29.86	758.4	29.94	760.5	82	27.8	.....	SE	14.6	6.5	.....	.....	.....	.....	.....	.....	.....	Raining	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.07	763.8	30.07	763.8	78	25.6	86	E	2	0.9	.....	5k	7ks	E	.....	0.590	14.99	⅓ cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A.	25.23	640.8	.....	.....	65.5	18.6	80	Calm	0	0	.....	0	1ks	.....	.....	0.02	0.5	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Conoho, (?)60 ft., or 533.4 m.; Denver, 5,102 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.0 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,596 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.83 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.69 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer.				Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.		Sea-swell.		Weather.	Observer.
	As read off.		Attached Thermometer.					Direction.	Velocity		Force.	Amount.		Direction.							
												Up'er	Low'r	Up'er	Low'r						
	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—	Inches.	Millimeters.	Character.	Direction from—		
Navy Yard, Mare Island, Cal.	29.80	756.9	56	13.3	54	12.2	93	SW	17	7.6			5		SW					Light fog	
Navy Yard, Pensacola, Fla.	30.05	763.3	85	29 4	85	29.4	79	SE	3	1.3			5		SE	0	0			Fair	
Navy Yard, Portsmouth, N.H	29.90	759.4	77	25.0	70	21.1	75	SSW	1	0.4			10			0	0			Overcast	
Naval Hospital, Yokohama, Japan	29.91*	759.7*	78.5	25.8	78.8	26.0	82	SW			3		4k;s		NW	0	0			Clearing	
Adams. Apia, Samoan Islands	29.99	761.7	80	26.7	79	26.1	95	Calm			0		5							Pleasant	
Alliance, Havre, France	29.87‡	758.7‡			65	18.3	100	WSW			0–1		10		WSW					Rainy	
Ashuelot. Nagasaki, Japan	30.05	763.3	84	28.9	84	28.9	91	Calm			0		2		Calm					Hazy	
Alaska, S. 15° 46′, W. 38° 08′	30.38	771.6	76	24.4	76	24.4	64	SE			4		8		SE	0	0	Light	SE	D. clouds	
Canonicus, New Orleans, La	29.94	760.5	58	14.4	85	29.4	76	S			2		2							Clear	
Colorado, New York, N. Y	29.84‡	757.9‡			75	23.9	72	S	12	5.4			8		SW	0	0			Hazy	
Constitution, Havre, France	29.82‡	757.4‡			66	18.9	100	WSW			3		9		W					Drizzly	
Despatch, Prince's Islands, Sea of Marmora	29.77‡	756.1‡			81	27.2	74	NE			4		2		NE			Mod'ate	NE	Clear	
Franklin, Norfolk, Va	30.07	763.8	75	23.9	74	23.3	81	SW	12	5.4			5		S					Sprinkling	
Gettysburg N. 42° 50′, E. 9° 50′	29.69‡	754.1‡			71	21.7	??	NE			3		5		Calm	2.	51.	Light	E	Clear.	
Hartford, Rio de Janeiro, Brazil	30.11	764.8			71	21.7	66	WNW	6.0	2.7			0			0	0			Clear	
Marion, Villefranche, France	29.74	755.4	76	24.4	78	25.6	57	S			2		5		Calm	Light	Light			Fair	
Michigan, Erie, Pa.	29.20	741.7	73	22.8	69	20.6	85	S			1		10		S					Raining	
Monocacy. Yokohama, Japan	29.88‡	758.9‡			79	26.1	86	SSW			2–3		5		SSW					Cloudy	
New Hampshire, Port Royal, S. C	30.18†	766.6†			82	27.8	83	Calm	0	0			2			0	0			Clear	
Onward, Callao, Peru	30.06†	763.5†			62	16.7	83	Calm			0		8					Long	W	Misty	
Palos, Tientsin, China	29.82	757.4	92	33.3	86	30.0	87	Calm			0		10							Cloudy.	
Pensacola, Mare Island, California	29.89	759.2	61	16.1	55	12.8	93	SW	4	1.8			5		SW					Cloudy	
Plymouth. New York, N. Y	29.85†‡	758.2†‡			74	23.3	81	SW			1		10		SW					Cloudy	
Ranger. Hong-Kong, China	30.02*	762.5*			87	30.6	79	SSW			1		5		Calm					D. clouds	
Rio Bravo, Brownsville, Texas	29.89	759.2	81	27.2	81	27.2	96	SE			1		8		Calm					Cloudy	
Santee, Annapolis, Md	29.86‡	758.4‡			76	24.4	64	WSW			3		2		W	0	0			Fair	
St. Louis, League Island, Pa	29.83	757.7	76	24.4	77	25.0	73	SW	15	6.7			8		W	0	0			Fair	
Supply, Havre, France	29.92	760.0	66	18.9	67	19.4	74	W			1		8							Cloudy	
Swatara, Boston, Mass	29.84‡	757.9‡			72	22.2	100	SW			2		10		S;W					Overcast	
Trenton, Lisbon, Portugal	30.03‡	762.7‡			83	28.3	67	N			3		0			0	0			Clear.	
Tuscarora, Acapulco, Mexico	29.70	754.4	83	28.3	83	28.3	79	NNE			0–1		5		Calm	0	0			Fair	
Vandalia, Beirut, Syria	29.66‡	753 4‡			85	29.4	76	NW			1		2		NW			Long	W	Clear	
Wabash, Boston, Mass	29.80‡	756.9‡			72	22.2	80	SW	11	4.9			10		Calm	0	0			Cloudy	
Wyoming, N. 44° 28′, W. 46° 52′	30.23†	767.8†			58	14.4	88	WNW			1		10					Smooth		Hazy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.
* It is not known that the barometer is corrected for temperature, instrumental error or elevation. † Aneroid Barometer. ‡ Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			Capt. Berry.
S. S. China, N. 33° 28′, E. 135° 57′		30.01*	762.2*	81	27.2	100	SSW			2		1		S	0	Light	SE	Fine	Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama, Nanaimo, B. C.		30.09*	764.3*				Calm			0		3		NW				Clear	Capt. Cavarly.
S. S. City of Peking, N. 36° 57′, W. 150° 46′		30.50†	774.7†	65	18.3	73	WNW	13	5.8			10		NW	0	Smooth		Overcast	Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima, N. 33° 37′, W. 120° 36′		29.88†	758.9†	56	13.3	??	NW			5		10		NW	0	Rough	NW	Misty	Capt. Whitebury.
S. S. Costa Rica																			Capt. Morse.
S. S. Dakota																			Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Granada																			Capt. Fuller.
S. S. Wilmington																			Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 48° 3′, W. 59° 55′		30.05*	763.3*	61	16.1	??	SW			4				W	0	Slight	SW	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 48° 57′, W. 28° 58′		30.18†	766.6†	65	18.3	84	Var.			2		10			8 hours	None		Raining	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 42° 32′ W. 139° 03′		30.37*	771.4*	59	15.0	94	S			3		ks			0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 37° 4′, W. 75° 17′		29.99	761.7	78.0	25.6	80	S			4		2		S			S	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.08*	764.0*	74	23.3	95	N			8		5		N	0			Partly cl'dy	Captain Sargent.
S. S. Ohio, Liverpool		29.74	755.4	78	25.6	76	WNW			2		4		W	Light			Clear	Captain Morrison.
S. S. Pennsylvania, N. 41° 33′, W. 62° 47′		30.09†	764.3†	69	20.6	100	SW			2		4		SW	0	Light	SW	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 41° 46′, W. 63° 25′		30.08*	764.0*				SSW	9	4.0			0				Smooth		Clear	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, N. 65° 55′, W. 58° 5′		29.53*	750.0*	37.0	2.8	92	ESE			1.0		10s			0			Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 27, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			29.99	761.7	69.4	20.8	87	NE			1		2			0	0	Fair	Dr. Ollive.
Nemours			29.96	760.9	83.3	28.5	75	NE			2		0			0	0	Clear	Michel.
Algiers			29.94	760.4	82.8	28.2	62	N			4		0			0	0	Clear	Tourillere.
La Calle			29.95	760.6	79.9	26.6	72	NW			4		4			0.047	1.2	Cloudy	Foufrede.
Tunis			29.90	759.5	84.7	29.3	.....	NW			8		4			0	0	Cloudy	Jacques.
Sfax			30.00	762.0	93.2	34.0	.....	NNE			3		0			0	0	Clear	Gau.
Saida			30.04	762.9	90.5	32.5	24	N			3		0			0	0	Clear	Herbin.
Tebessa			29.96	761.0	78.3	25.7	34	N			4		4			0	0	Cloudy	Watrin.
Geriville			30.00	762.0	82.4	28.0	73	N			4		0			0	0	Clear	Brugniaux.
Laghouat			30.03	762.7	87.4	30.8	24	Calm			0		0			0	0	Clear	Bertrand.
Biskra			29.95	760.7	95.0	35.0	32	SE			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.06	738.1	29.60	751.7	62.2	16.8	74	NE			4	10			0.091	2.3	Raining	Prof. Ivan Stoza.
Cracow	28.91	734.2	29.63	752.7	70.9	21.6	64	E			2	8			0	0		Prof. Dr. Karlinski.
Eperies	28.72	729.4	29.55	750.6	72.3	22.4	55	N			2	5cks		S	0	0		Julius Mikolik.
Gratz	28.43	722.2	29.64	752.9	63.1	17.3	74	NW			5	10			0.894	22.70		Andreas Rospini.
Hermannstadt	28.15	714.9	29.50	749.3	69.1	20.6	76	SE			1	10			0.140	3.55	Rainy	Prof. Reissenberg
Kremsmünster	28.44	722.3	29.76	755.8	57.6	14.2	90	W			3	10			0.803	20.4		Prof. C. Wagner
Lemberg	28.78	731.0	29.67	753.5	66.7	19.3	36	SW			3	9			0	0		Dr. T. Stanecki.
Pola	29.50	749.3	29.61	752.1	69.3	20.7	61	NNW			2	10s			0.425	10.8		I. R. Hydrographic Office
Szathmar	29.11	739.5	29.56	750.7	71.6	22.0	67	SE			4	10			0.039	1.0		Johann Tamas, S. J.
Szegedin																		Karl Stancel.
Trieste	29.56	750.8	29.66	753.4	71.4	21.9	62	E			1	10			0.071	1.8	Rainy	P. Busin.
Vienna	28.94	735.0	29.63	752.7	60.8	16.0	80	WNW			7	10			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 388.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.40	721.3	29.88	758.9	60.8	16.0	89	W			1	10			0.063	1.6		Prof. M. Passau.
Brussels	29.03	752.7	29.88	757.7	63.0	17.2	90	NW			0	10		WNW	0.380	9.80	Raining	Royal Observatory
Furnes	29.87	758.7	29.89	759.3	69.6	20.9	76	NNW			4	5			0.031	0.8		M. E. de Cae.
Maeseyck	29.71	754.6	29.84	757.8	70.5	21.4	70	S			1	1			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

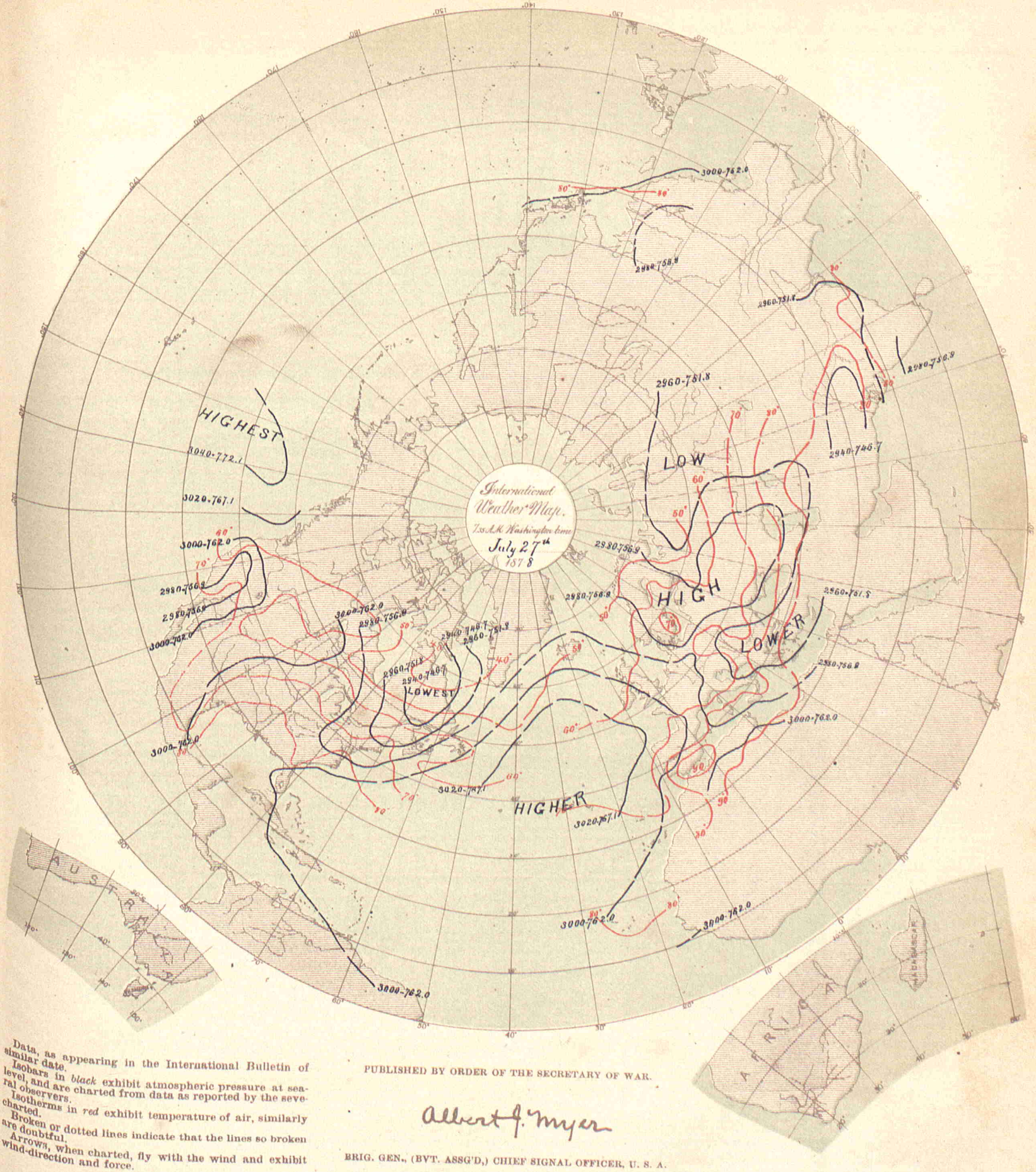
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.81	757.2	29.91	759.7	59.5	15.3	.....	WNW	9	4.0	.....	.....	7	.....	.....	0.010	0.25	D. clouds....	W. Boswell.
Ardrossan	29.91	759.7	29.92	760.0	64	17.8	.....	NW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	George Carrick.
Armagh, Observatory	.....	.....	30.03	762.7	62.8	17.1	.....	NW	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.94	760.5	61.8	16.6	.....	W	25	11.2	.....	.....	3	.....	.....	.....	.....	Blue sky....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.06	763.5	65.5	18.6	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	J. McLandsborough.
Bridgetown, (Barbados)	30.01	762.2	30.04	763.0	84	28.9	.....	SE	.....	.....	1	.....	3?	.....	.....	.....	.....	Overcast?....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.89	759.2	67.0	19.4	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. Todd. [H. O.
Cardington	.....	.....	29.92	760.0	67.0	19.4	.....	N	.....	.....	1	.....	9	.....	.....	Blank	Blank	Overcast.....	John McLaren.
Chatham, School M. E.	29.75	755.6	29.88	758.9	68.2	20.1	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	D. clouds....	Lt. W. G. Morris, R. E.
Dartmoor	28.52	724.4	29.96	761.0	61.0	16.1	.....	NW	.....	.....	4	.....	4	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	29.97	761.2	29.99	761.7	63	17.2	.....	N	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	29.87	758.7	29.89	759.2	66	18.9	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.91	759.7	67.7	19.8	.....	WSW	5.0	2.2	.....	.....	4	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.83	757.7	30.06	763.5	65.9	18.8	.....	NNW	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.68	703.1	29.98	761.5	81.4	27.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.80	756.9	30.03	762.7	84	28.9	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	30.03	762.7	63	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.90	759.4	29.95	760.7	81.9	27.7	.....	E	.....	.....	1	.....	2	.....	.....	.....	.....	Gloomy.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.71	754.6	29.91	759.7	65.5	18.6	.....	NNW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	29.89	759.2	29.89	759.2	61	16.1	.....	NNE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.73	755.1	29.89	759.2	74.0	23.3	.....	NNW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	29.77	756.1	29.98	761.5	67	19.4	.....	NW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.04	763.0	79	26.1	.....	NW	.....	.....	2	.....	3c	.....	.....	0.14	3.6	Fine.....	M. P. Moyle.
Holyhead	29.97	761.2	30.02	762.5	62	16.7	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.74	755.4	30.02	762.5	65.9	18.8	.....	NW	.....	.....	3	.....	7	.....	.....	Blank	Blank	D. clouds....	J. Fisher.
Kew, Observatory	.....	.....	29.90	759.4	67.5	19.7	.....	NW	7	3.1	.....	.....	8	.....	.....	.....	.....	Misty.....	The Staff.
Kingstown	29.99	761.7	30.02	762.5	63	17.2	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	.....	.....	29.91	759.7	62.3	16.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.66	753.4	29.74	755 4	81	27.2	.....	NW	.....	.....	2	.....	5s	.....	.....	.....	.....	D. clouds....	Sgt. Hewitt A. H. C.
Nairn	29.81	757.2	29.90	759.4	61	16.1	.....	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	½ clouded...	W. B. Penny.
Nassau, (Bahamas)	.....	.....	30.03	762.7	81.5	27.5	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.73	755.1	29.92	760.0	64.2	17.9	.....	SE	.....	.....	2	.....	10h;d;n	.....	.....	SW; E	0.157	3.99	Raining.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.41	747.0	29.92	760.0	65.0	18.3	.....	NW	.....	.....	4	.....	3	.....	.....	.....	.....	Hazy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.92	760.0	68	20.0	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.94	760.5	30.01	762.2	70.5	21.4	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	30.01	762 2	30.05	763.3	62	16.7	.....	NNE	.....	.....	3	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29 58	758.9	30.03	762.7	62	16.7	.....	N	.....	.....	3	.....	2	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.90	759.4	56	13.3	.....	W	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.45	748.0	83.8	28.8	.....	WSW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.68	753.9	29.96	761.0	58.0	14.4	.....	SW	.....	.....	1	.....	10	.....	.....	0.54	13.7	Overcast	W. F. Cooper.
Silloth Rectory	29.90	759.4	29.93	760.2	66.0	18.9	62	Calm	.....	.....	0	.....	3	.....	.....	0	0	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.51	749.5	29.92	760.0	66.0	18.9	.....	WSW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C. (Hebr.)	29.85	758.2	29.89	759.2	59	15.0	.....	NNW	.....	.....	4	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.70	754.4	29.91	759.7	72.0	22.2	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	29.90	759.4	60	15.6	.....	WNW	.....	.....	2	.....	9	.....	.....	Blank	Blank	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	30.07	763.8	70	21.1	.....	NW	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.08	764.0	63.6	17.6	.....	SSE	4	1.8	.....	.....	10	.....	.....	.....	.....	Raining.....	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.42	747.3	55.0	12.8	93	SW	.....	.....	2	.....	10n	.....	.....	0.20	5.1	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764 7	72.4	22.4	68	ESE	6.5	2.9	.....	1	7	.....	.....	0	0	Cloudy.....	C. Meldrum.
Melbourne, Observatory	29.78	756.4	29.88	758.9	42.3	5.7	87	W	16	7. 2	.....	.....	3	.....	.....	0.11	2.8	Raining.....	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell: Height scale 0—9	Sea or swell: Direction from—	Weather	Observer
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 60° 0′ W. 47° 40′	4	.....	Foggy.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 47° 5′, W. 52° 30′	2	SW	Misty.....	Capt. Alex Simpson
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5			70.2	21.2	89	NE			3	1ck	1s			0.4	10		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.4	29.83	757.6	66.9	19.4	45	S			4		9						
Fanöe	29.76	755.8	29.78	756.3	66.7	19.3	85	W			4		9						
Godthaab, (Greenland)	29.64	752.8	29.68	753.9	41.5	5.3		S			8		10						
Stykkisholm, (Iceland)	29.88	758.9	29.92	760.0	52.9	11.6	86	S			4		8					Raining	
Thorshavn, (Faröe)	29.87	758.7	29.91	759.6	54.5	12.5	63	N			6		3						
Vestervig	29.63	752.5	29.80	756.8	63.3	17.4	93	W			2		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.2	30.01	762.2	69.8	21	64	N			2		5			0.185	4.7	Cloudy	Collignon, Director.
Amiens, Normal School	29.74	755.4	29.85	758.1	75.6	24.2	66	SW			2		5		NW	0.512	13.0	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.76	755.8	29.84	757.8	79.5	26.4	48	NNW			2		2		NNW	0	0	Partly cl'dy	M. Giraud, Director.
Bar-sur-Seine	29.32	744.7	29.87	758.6	70.2	21.2	62	N			1		10			0.295	7.5	Raining	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Oheux.
Beauvais	29.63	752.6	29.91	759.6	71.4	21.9	61	NW			2		8		NW	0.049	1.25	Very cloudy	Normal School.
Besançon	29.02	737.1	29.58	750.0	69.1	20.6	67	SW			2		5		SW	0.213	5.4	Cloudy	Normal School.
Bourg-en-Bresse	29.11	739.4	30.04	763.0	74.1	23.4	73	SW			2		5ck		W	0.31	8.	Cloudy	Normal School.
Bourges, Normal School	29.34	745.2	29.91	759 8	69.4	20.8	89	SW			4		k		SW	0.47	12.		A. Wagner, Director.
Brest, Naval Observatory	29.77	756.2	30.02	762.4	69.4	20.8	67	WNW			3		7		WNW	0.177	4.50		The Staff.
Carcassonne, Normal School	29.54	750.3	29.98	761.4	68.0	20	58	W			4		5		W	0.16	4.	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.31	744.5	29.85	758.3	72.0	22.2	72	NNW			2		5		S	0.453	11.5		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.53	750.0	29.84	757.8	71.2	21.8	62	W			2		8ck		W	0.288	7.2	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.57	725.7	29.87	758.7	72.0	22.2	49	W			3		8		NW	0.067	1.7	Very cloudy	Alluard, Director.
Commercy, Normal School	28.99	736.4	29.85	758.1	68.0	17.2	90	WNW			4		5		ESE	0.433	11.00	Raining	Dr. Coulet, Director.
Commune de Gréasque*	28.76	730.2	29.89	759.2	79.2	26.2	31	NW			6		2		NW	0	0	¾ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.79	756.6	30.00	761.9	71.2	21.8	64	WNW			4		10			0.16	4.	Covered	Mouillot, Director.
Le Mans, Normal School	29.63	752.7	29.93	760 3	68.4	20.2	72	N			4		2		N	0.089	2.25	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.9	29.84	757.9	76.1	24.5	50	W			2		5		NNE	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.90	759.4	30.00	761.9	71.6	22.0	58	NNW			3		8		NW	0	0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.19	741.5	29.86	758.4	69.8	21	91	NW			1		5		NW	0 185	4.7	Cloudy	M. Galzin, Director.
Mirecourt	28.87	733.4	29.89	759.1	68.7	20.4	94	NW			2		2		SW	0.35	9.	Slightly cl'dy	Normal School
Nismes, Normal School	29.61	752.2	29.80	757.0	82.8	28.2	28	N			2		2		NE	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	29.53	750.1	29.90	759.5	70.1	24.6	63	N			2		2		N	0.04	1.	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.65	753.1	29.88	759.0	68.2	20.1	65	WNW			2		5		NW	0.207	5.25	Cloudy	National Observatory.
Privas, Normal School	28.87	733.3	29.89	759.2	73.4	23.0	59	N			6		10		N	0.343	8.7	Covered	M. Cantier.
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	30.01	762.2	30.04	763.0	75.2	24.0	46	W			3		8		W	0	0	¾ Covered	Lt. Decante, Director.
Rouen, Normal School	29.82	757.5	29.91	759.6	72.9	22.7	54	N			3		2		N	0.106	2.7	Slightly cl'dy	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.94	735.1	29.99	761.8	68.0	20	72	SSE			4		10			0.08	2.	Raining	T. Huguet, Director.
Villefranche, Normal School	29.17	740.9	29.85	758.2	66.2	19	92	SE			4		10		NW	0.571	14.5	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.95	760.7	80.6	27										0	0		L'Abbé Marchés.
Lyons																			L. Jays.
Marseilles, Observatory			29.78	756.3	80.1	26.7	38	NW			4		5			0	0		The Staff.
Mont-Louis	24.89	632.3	30.21	767.3	68.0	20.0	31	WSW	18.6	8.33			1		SW	0	0		M. Cave.
Nice			29.69	754.1	77.7	25.4	45	NW			2		1			0	0		Dr. A. Niepce.
Perpignan	29.61	752.0	29.88	759.0	70.2	21.2	65	NW			3		2			0.366	9.3		Marié Davy, Director
Pic du Midi, (Summit,) H. P.			29.92	760.0	79.5	26.4	51	NW	41.0	18.33			2		NW	0	0		Dr. Fines.
Pic du Midi, (Plantade,) H. P.																			M. Baylac.
Saint Maur, (near Paris)	22.65	575.2			44.6	7.0		N			3–4		5			0	0	Fair	Gen'l de Nansouty
Toulouse, Observatory	29.72	754.9	29.89	759.1	71.2	21.8	59	WNW			1–2		4		NNW	0.161	4.1		E. Renou.
Tours	29.34	745.2	30.07	763.7	69.8	21.0	62	WNW			4		8			0	0		The Staff.
Versailles, (near Paris)	29.74	755.3	29.93	760.3	69.8	21.0	82	NW			1		8		NNW	0.465	11.8		C. Marquet.
Zi-Ka-Wei, (near Shanghai)			29.90	759.5	73.8	23.2	45	NW			2		8			0.046	1.16	Fair	Dr. A. Bérigny.
	29.70	756.7	29.82	757.3	79.2	26.2	90	SE	6.5	2.9			0			0	0	Clear	Mare Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,360 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	25.92	734.5	29.75	755.7	68.9	20.5	71	W			2		8	W		0.08	2.	Raining	Prof. Dr. Hoh.
Berlin	29.62	752.3	29.78	756.5	72.3	22.4	36	NE			1		10			0	0		Prof. Arndt.
Breslau	29.22	742.2	29.74	755.5	73.9	23.3	36	NE			2		4			0	0		Royal University Obs'y
Carlsruhe	29.40	746.7	29.81	757.1	71.2	21.8	65	SW			1		8			0	0		Albert Senz.
Cassel	29.24	742.6	29.84	757.9	69.4	20.8	61	N			2		7	SW		0.204	5.19		Dr. H. Möhl.
Crefeld	29.64	752.8	29.80	756.9	73.0	22.8	63	W			1		6k			0.08	2.		Director Lose.
Emden	29.69	754.1	29.73	755.2	66.9	19.4	70	NNW			1		5			0.197	5.0	Lightning	Prof. Prestel.
Frankfort on the Main	29.50	749.4	29.85	758.3	73.6	23.1		N			2		8			Inap.	Inap.		Physical Society.
Friedrichshafen	28.45	722.6	29.55	758.1	64.8	18.2	79	NW					10	WNW		0.024	0.6		M. Wilhelm.
Hamburg	29.73	755.2	29.80	756.9	66.6	19.2	74	SE			1		10			0.102	2.6	Raining	Captain F. Hegemann.
Kiel	29.78	756.3	29.79	756.7	67.6	19.8	77	S			2		10			0.072	1.83		Prof. G. Karsten.
Königsberg, (Prussia)	29.79	756.7	29.87	758.7	69.1	20.6	42	E			2		2			0	0		Prof. E Luther.
Köslin			29.84	757.8	72.1	22.3		E			4		1			0	0		H. Müller.
Leipsic, Observatory	29.42	747.3	29.84	757.8	63.1	17.3	78	NW			1		10	N		0.591	15.0	Rainy	Prof. Bruhns.
Memel, Naval School	29.86	758.4	29.91	759.6	64.0	17.8	45	NW			3		1c						Reinbrecht and Skalweit.
Neufahrwasser	29.57	758.6	29.88	759.0	66.2	19.0	53	NE			3		1			0	0		A. Lothes.
Posen	29.54	750.2	29.81	757.2	74 8	23.8	31	WSW			6		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.30	744.3	29.84	757.8	68.7	20.4	76	S			1		7	WNW		0.287	7.31	Raining	Astronomical Observatory.
Stuttgart	28.91	734.2	29.82	757.5	68.5	20.3	62	W			1		7	W		0	0		Prof. Schoder.
Treves, (Trier)	29.19	741.3	29.70	754.4	71.6	22.0	59	N			1		10			0.013	0.34	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.34	719.9	29.78	756.3	63.1	17.3	71	W	0	0			10		NW	0.189	4.8	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.82	757.5	29.86	758.5	65.5	18.6	78	NNW			1		8			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.17	740.8	29.53	750.1	92.1	33.4		SW			2.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.39	746.6	29.44	747.9	83.1	28.4	87	W	29?	13.07			10			1.35	34.3	Threatening	
Deesa	29.06	738.1	29.53	750.0	81.5	27.5	84	S					10	N	SW	0.05	1.3	Overcast	
Bombay	29.66	753.2	29.69	754.2	82.5	28.1	85	WSW	26	11.6			10		W	0.16	4.1	Overcast	
Poona	27.70	703.5	29.71	754.5	73.6	23.1	86	W					10		W	0.33	8.4	Drizzling	
Lahore	28.78	731.0	29.49	749.1	93.6	34.2	49	E	4.5	2.0			5			0	0		
Belgaum	27.26	692.3	29.80	757.0	72.3	22.4	90	W	8	3.6			10	NE	W	0.12	3.0	Overcast	
Bangalore																			
Roorkee	28.62	726.9	29.49	749.0	89.5	32.1	58	SE	3.2	1.4			3			0.29	7.4		
Agra	28.91	734.3	29.45	748.1	94.6	34.8	48	E	10	4.5					E	0	0		
Trichinopoly																			
Nagpur	28.48	723.3	29.52	749.7	74.6	23.7	93	W	9.2	4.1			10		E	1.67	42.4	Overcast	
Madras																			
Lucknow	29.12	739.7	29.48	748.9	88.2	31.2	61	N	13	5.8			10			0	0	Overcast	
Allahabad	29.14	740.2	29.45	748.0	85.0	29.4	85	E	11	4.9			9		E	0.07	1.8	D. clouds	
Patna	29.38	746.2	29.56	750.8	80.7	27.1	82	E	5.2	2.3			6	E	E	0.03	0.8	D. clouds	
Hazaribagh	27.54	699.6	29.55	750.4	75.8	24.3	90	E	19.3	8.6			10		E	0.40	10.2	Raining	
Cuttack	29.48	748.9	29.57	751.0	82.0	27.8	83	SW	1.0	0.4			9			0.74	18.8	Overcast	
Calcutta (Alipore)	29.55	750.6	29.57	751.2	79.7	26.5	93	SE	4.0	1.8			10	SE	SE	0	0	Overcast	
Goalpara	29.28	743.7	29.67	753.5	79.8	26.6	89	E	3.2	1.4			9			0.04	1.0	D. clouds	
Chittagong	29.63	752.5	29.72	754.8	81.9	27.7	83	SE	7.9	3.5			10			0	0	Gloomy	
Sibsagar	29.34	745.2	29.67	753.6	84.6	29.2	80	ENE	2.6	1.2			10	SSW	SSW	0.04	1.0	D. clouds	
Rangoon																			
Jubbulpore	28.06	712.8	29.42	747.2	76.5	24.7	95	SSE	4.1	1.8			10			1.80	45.7	D. clouds	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.28	743.7	29.67	753.7	69.4	20.8	60	Calm	0	0	.....	.....	10	.....	.....	0.394	10.0	.....	Prof. Giovanni Clodig.
Padua	29.58	751.4	29.69	754.1	68.0	20.0	69	N	5.6	2.5	.....	.....	10	.....	.....	0.126	3.2	.....	Prof. Dott. Lorenzoni
Vicenza	29.50	749.2	29.68	753.9	71.1	21.7	55	E	1.8	0.8	.....	.....	7	.....	.....	0.354	9.0	.....	Conte Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	28.80	731.4	29.66	753.3	76.3	24.6	45	ESE	9.4	4.2	.....	.....	2	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.82	706.5	29.64	752.8	75.4	24.1	42	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.46	748.3	29.67	753.7	79.3	26.3	51	S	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.47	748.5	29.63	752.6	82.0	27.8	27	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.36	745.8	29.67	753.5	76.5	24.7	39	SE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.37	746.1	29.62	752.4	81.5	27.5	38	NW	.....	.....	2	.....	10	NW	.....	0.020	0.5	.....	Cav. F. Meucci.
Leghorn	29.56	750.7	29.63	752.7	76.1	24.5	67	W	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.62	752.4	29.67	753.6	70.7	21.5	71	N	.....	.....	.....	.....	10	.....	.....	0.984	25.0	.....	Prof. Luigi Guidi.
Urbino	28.18	715.8	29.67	753.7	63.1	17.3	77	NNE	.....	.....	2	.....	10	.....	.....	1.488	37.8	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Pontichelli.
Rome	29.48	748.9	29.65	753.2	81.5	27.5	33	N	16.8	7.5	.....	.....	0	.....	.....	0.039	1.0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.46	748.2	29.65	753.1	78.3	25.7	55	WSW	.....	.....	6	.....	6	SW	.....	0.098	2.5	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	77.4	25.2	60	WSW	7.4	3.3	.....	.....	4	NW	.....	0.012	0.3	.....	Prof. C. De Giorgi.
Cagliari	29.57	751.0	29.75	755.7	79.7	26.5	30	NW	.....	.....	6	.....	4	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.83	732.2	29.67	753.5	77.7	25.4	70	SW	2.5	1.1	.....	.....	9	.....	.....	0.413	10.5	.....	Prof. F. D. Conti.
Palermo	29.49	749.0	29.73	755.2	79.0	26.1	47	W	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.03	752.7	29.71	754.6	81.5	27.5	51	E	.....	.....	4	.....	7	WSW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.10	739.2	29.66	753.3	75.4	24.1	66	WSW	14.3	6.4	.....	.....	5	.....	.....	0.036	0.9	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.74	755.4	29.94	760.5	78.6	25.9	90	SW	1.1	0.5	.....	.....	0	.....	.....	0	0	Clear	
Tokei (Yeddo) Observatory	29.81	757.2	29.87	758.7	79.2	26.2	81	SSW	5.4	2.4	.....	0	0	.....	.....	0	0	Clear	I. Arai, Director.
Tokei (Yeddo) University	29.76	755.9	29.86	758.4	79.5	26.4	93	NNW	1.5	0.7	.....	1c	.....	.....	.....	0	0	Fine	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.0	17.8	91	NW	0.9	0.4	.....	0	3kcs	.....	.....	0.127	4.2	Clear	L. Castillo, A. E.
Guadalajara	25.07	638.8	30.03	762.7	58.6	14.8	89	Calm	0	0	.....	0	7	.....	E	0	0	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.5	18.0	78	SSW	0.9	0.4	.....	0	10n	.....	.....	0.06	1.4	Covered	Prof. M. Leal.
Mexico	23.10	586.7	30.05	763.3	58.1	14.5	85	Calm	0	0	.....	6c	0	.....	.....	0.02	0.5	½ cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.4	18.0	86	Calm	0	0	.....	5c	1s	.....	.....	0	0	½ cloudy	M. V. de Leon, M. E
Puebla	23.35	592.9	29.99	761.7	56.1	13.4	90	NE	.....	.....	.....	0	3k	.....	.....	0	0	Clear	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.28	613.7	30.01	762.3	64.0	17.8	80	NW	0.9	0.4	.....	6	1	W	NW	0.91	23.0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.87	758.6	29.90	759.2	82.4	28.0	85	SW	1.8	0.8	.....	5c	2k	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	86	SSW	1.8	0.8	.....	0	10	.....	.....	0.39	10.0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.28	591.5	30.03	762.8	54 7	12.6	75	NE	2.2	1.0	.....	1	1	E	NE	0.32	8.0	Clear	Prof. P. Spina, [M.M. D. D.
Morelia	24.11	612.5	.....	.....	64.4	18.0	66	NE	0.9	0.4	.....	5c	0	E	.....	0.01	0.2	½ cloudy	M. Tena, F.L. Paramo,
Durango	24.21	614.8	29.99	761.8	68.3	20.2	86	SW	11.0	4.9	.....	0	10kn	.....	.....	0.04	0.9	Covered	M. V. de Leon, C. E.
Colima	28.39	721.1	30.01	762.2	79.7	26.5	77	.....	.....	.....	.....	.....	.....	.....	.....	0	0	½ cloudy	R. Banda, C. E.
San Juan E. Mi-hapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerraly Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.3	29.85	758.3	71.2	21.8	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.008	0.2	.....	
Groningon	29.78	755.8	29.81	757.2	66.0	19.2	.....	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.83	757.7	29.83	757.7	64.8	18.2	.....	NNW	.....	.....	4	.....	.....	.....	.....	0.150	3.8	.....	
Hellevoetsluis	29.83	757.7	29.83	757.7	70.9	21.6	71	NW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.78	756.4	29.83	757.6	69.3	20.7	67	W	.....	.....	2	.....	5	.....	.....	0.138	3.5	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.67	753.5	29.72	754.9	63.3	17.4	82	SSE	4.3	1.9	.....	.....	5	.....	.....	0.043	1.1	Light rain...	
Brönö	29.66	753.3	29.70	754.3	66.9	19.4	51	NNE	9	4	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.68	753.8	29.82	757.4	66.4	19.1	68	WSW	7	3	.....	.....	10	.....	.....	0	0	.....	
Tromsö	29.79	756.7	29.84	757.8	51.4	10.8	81	N	7	3	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUÉSE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.17	766.2	30.35	771.0	73.4	23.0	84	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.05	737.8	30.00	761.9	95.9	35.5	15	NNE	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.02	762.6	30.11	764.8	75.6	24.2	68	SW	2.6	1.1	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.65	753.1	29.98	761.5	96.6	35.9	15	NE	17.4	7.8	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.27	768.9	30.34	770.7	74.5	23.6	67	NE	6.9	3.1	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 00′, E. 12° 00′	.....	.....	30.04	763.1	69.8	21.0	.....	Calm	.....	.....	0	.....	.....	.....	.....	0	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro, Port Melville	.....	.....	30.09	764.2	74.3	23.5	.....	ENE	.....	.....	5	.....	0	.....	.....	5	ENE	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	29.99	761.8	78.8	26.0	.....	NE	.....	.....	2	.....	9	.....	NE	2	NE	Drizzling	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.94	760.5	73.4	23.0	.....	NNW	.....	.....	1	.....	8	.....	.....	1	.....	Misty	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.34	745.3	29.75	755.6	71.4	21.9	42	E	11	5	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.47	748.6	29.88	758.9	68.7	20.4	39	Calm	0	0	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.58	751.3	29.81	757.2	64.9	18.3	65	NNE	4	2	.....	.....	9ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.80	756.8	29.81	757.2	63.1	17.3	58	ENE	9	4	.....	.....	4k	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.20	741.6	29.81	757.1	70.5	21.4	39	E	9	4	.....	.....	6k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.76	755.8	29.83	757.6	73.0	22.8	41	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.72	755.0	29.74	755.5	74.5	23.6	69	NNE	11	5	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.36	745.8	29.90	759.5	62.4	16.9	60	S	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.65	753.0	29.85	758.1	71.4	21.9	42	E	9	4	.....	.....	6ck	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.70	754.4	29.72	754.9	49.1	9.5	87	WNW	18	8	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.43	722.2	29.76	755.8	90.5	32.5	38	Calm	0	0	.....	.....	6n	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.94	760.5	29.86	758.4	76.8	24.9	35	NNE	7	3	.....	.....	8s	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.60	749.3	29.76	755.9	62.8	17.1	58	W	2	1	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.75	730.3	29.67	753.6	62.2	16.8	83	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs
Nukuss	29.41	746.9	29.62	752.4	93.0	33.9	42	NNW	2	1	.....	.....	6ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.03	712.0	29.60	751.9	88.2	31.2	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.04	737.6	29.54	750.3	65.3	18.5	77	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.35	745.4	29.62	752.3	81.3	27.4	45	NE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.65	753.2	29.80	756.8	73.2	22.9	98	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.82	757.3	29.91	759.8	79.9	26.6	56	S	1.5	0.67	.....	.....	.....	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.12	765.0	30.17	766.4	68.2	20.1	87	NW	4.4	1.98	.....	.....	10	.....	.....	0.091	2.3	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.22	691.5	.....	.....	72.7	22.6	57	NW	2.4	1.08	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.85	707.3	29.91	759.6	94.6	34.8	25	N	6.7	3.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.8	100.0	37.8	42	SE	1.9	0.83	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.28	743.8	30.15	765.8	73.2	22.9	66	NE	13.3	5.94	.....	.....	0	.....	.....	0	0	Clear	R. Gil Villanueva, Dir.
Sub-Series. Havana, Cuba, W. I.	29.87	758.8	29.94	760.4	81.4	27.4	80	E	4.9	2.2	.....	8c;cs	2k	.....	NW	0.071	1.8	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.88	758.9	29.97	761.3	86.7	30.4	53	SW	7.7	3.4	.....	0	0	.....	.....	0	0	Clear	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	82.0	27.8	85	E	2.6	1.17	.....	2cs	1k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.89	759.1	29.93	760.1	59.7	15.4	.....	N	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.93	760.2	29.98	761.5	57.6	14.2	92	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.83	757.6	29.88	758 9	65.8	18.8	48	ESE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.69	754.1	29.87	758.6	70.2	21.2	38	SE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Wisby	29.80	756.9	29.86	758.4	64.4	18.0	78	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.76	755.8	29.83	757.7	74.1	23.4	35	NNW	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.48	723.5	29.87	758.7	68.5	20.3	55	E	.....	.....	1	.....	5	.....	.....	0.122	3.1	Cloudy.....	The Observatory.
Zurich	28.28	718.2	29.88	759.0	63.3	17.4	82	W	.....	.....	2	.....	7	.....	.....	0.189	4.8	Cloudy.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.3 mm.; Thermometer, —2.4 cent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.51	749.6	60.1	32.3	42	SE	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.77	756.2	82.8	28.2	.....	SW	.....	.....	2	.....	0	.....	.....	0.63	16.	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.63	750.0	29.64	752.9	90.0	32.2	66	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.25	742.9	29.32	744.7	65.7	18.7	74	SW	20	8.9	.....	.....	10n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.37	746.0	29.67	753.6	65	18.3	.....	SE	1	0.4	.....	.....	10s	.....	NE	2.44	62.0	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.32	744.7	29.30	746.5	64	17.8	94	S	24	10.7	.....	.....	10n	.....	S	0.96	24.4	Light rain...	G. A. Blair.
Charlottetown, P. E. Island.	29.63	752.6	29.67	753.6	64	17.8	88	SE	22	9.8	.....	.....	10n	.....	Calm	0.560	14.22	Cloudy.....	H. J. Cundall, C. E
Cornwall, Ontario	29.42	747.3	29.60	751.8	67.2	19.6	91	NW	.....	.....	1	.....	9s	.....	.....	1.585	40.26	Cloudy.....	James Smith, M. A.
Dalhousie, N. B	29.18	741.2	29.33	745.0	62.7	17.1	100	E	.....	.....	4	.....	.....	.....	.....	1.18	30.0	Raining.....	H. A. Johnson.
Esquimault, B. C	29.98	761.5	30.03	762.7	55.2	12.9	93	W	.....	.....	.....	0	0	.....	.....	0	0	Clear.	W. H. Bevis.
*Father Point, Quebec	29.39	746.5	29.41	747.0	52	11.1	93	N	10	4.5	.....	.....	Fog	.....	Calm	0.67	17.0	Foggy.....	J. McWilliams.
Fredericton, N. B	29.40	746.7	29.46	748.3	64.0	17.8	94	SW	15	6.7	.....	.....	10n	.....	.....	0.310	7.87	Light rain...	Prof. Harrison.
*Fort Garry Manitoba	29.22	742.2	30.03	762.7	55	12.8	97	Calm	0	0	.....	5ck	2ks	NW	NW	0	0	Cloudy.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.75	730.2	29.81	757.2	66	18.9	84	NW	.....	.....	2	0	0	.....	.....	2.10	53.3	Clear.....	James Grant.
*Halifax, N. S	29.62	752.3	29.75	755.6	67	19.4	79	S	19	8.5	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.46	748.3	29.82	757.4	63.9	17.7	86	W	.....	.....	2	1c	0	NE	.....	1.93	49.0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.07	761.2	29.99	761.7	64	17.8	77	SW	.....	.....	2	.....	10	.....	.....	0	0	Overcast....	E. Weedon.
*Kingston, Ontario	29.37	746.0	29.69	754.1	66	18.8	86	NW	6	2.2	.....	8c	2s	Calm	Calm	3.23	82.0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.83	757.7	29.87	758,7	65.0	18 3	.....	SW	13	5 8	.....	0	8s	.....	.....	0	0	Squally.....	C. H. Rigby.
*Montreal, Quebec	29.41	747.0	29.59	751.6	68	20.0	79	NW	10	4.5	.....	5k	2ks	N	.....	2.42	61.5	Cloudy.....	C. H. McLeod, C. E
*Parry Sound, Ontario	29.09	738.9	29.78	756.9	66	18.9	92	W	9	4.0	.....	2ck	0	W	.....	0.16	4.1	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.04	737.6	29.76	755.9	65.7	18.7	81	W	.....	.....	2	0	0	.....	.....	1.00	25.4	Bright.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.14	740.1	29.81	757.2	64	17.8	89	NW	11	4.9	.....	0	0	.....	.....	1.74	44.2	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.82	757.4	67	19.4	84	W	8	3.6	.....	2k	0	NW	.....	2.20	55.9	Clear.....	M. Payne.
*Quebec, Quebec	29.19	741.4	29.50	749.3	62	16.7	100	Calm	.....	.....	0	.....	10n	.....	Calm	1.46	37.1	Light rain...	Capt. Ashe, R. N
*Rockliffe, Ontario	29.29	744.0	29.73	755.1	63	17.2	83	NW	8	3.6	.....	0	2s	.....	NW	0.08	2.0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.48	748.8	29.63	760.0	62	16.7	94	SW	20	8.9	.....	.....	10n	.....	.....	0.39	9.9	Light rain...	Dr. Gove.
St. John, N. B	29.41	747.0	29.67	751.1	59	15.0	100	S	33	14.8	.....	.....	10n	.....	.....	0.800	20.32	Raining.....	G. Murdock, C. E.
*Saugeen, Ontario	29.10	739.1	29.78	756.4	67	19.4	80	W	8	3.6	.....	5k	0	NW	.....	0.24	6.1	Cloudy.	K. Stewart.
Stayner, Ontario	29.02	737.1	29.76	755.9	68	20.0	79	NW	3	1.3	.....	5k	0	NW	.....	0.44	11.2	Fair.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.85	758.2	29.88	758.9	66	18.9	84	SW	8	3.6	.....	10cs	2s	SW	SW	Inap.	Inap.	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.43	747.5	29.80	756.9	65	18.3	84	W	6	2.7	.....	2ck	0	N	.....	1.75	44.5	Clear.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	72.0	22.2	71	SW	.....	.....	.....	Sm'e	Sm'e	.....	.....	Inap.	Inap.	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.43	747.5	29.64	752.8	71	21.7	75	NW	14	6.3	....	2c	8s	W	NW	0.21	5.3	Cloudy	
Alpena, Michigan	29.24	742.7	29.86	758.4	60	15.6	82	W	11	4.9	.....	0	Haze	.....	.....	0.10	2.5	Clear	
Atlantic City, New Jersey	29.72	754.9	29.74	755.4	68	20.0	90	S	15	6.7	.....	10k	0	S	.....	0	0	Cloudy	
Augusta, Georgia	29.79	756.7	29.97	761.2	81	27.2	74	S	3	1.3	.....	2c	Sm'e	Calm	.....	0	0	Fair	
Baltimore, Maryland	29.68	753.9	29.73	755.1	79	26.1	66	SW	5	2.2	.....	.....	10s	.....	SW	0.01	0.3	Threatening	
Barnegat, New Jersey	29.69	754.1	29.71	754.6	77	25.0	73	SW	21	9.4	.....	10k	Haze	W	Calm	0	0	Cloudy	
Bismarck, Dakota	28.25	717.5	30.11	764.8	65	18.3	73	E	4	1.8	.....	0	1s	.....	Calm	0	0	Clear	
Boise City, Idaho	27.13	689.1	30.01	762.2	61	16.1	55	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.45	748.0	29.60	751.8	71.5	21.9	90	SW	16	7.2	.....	.....	10s	.....	SW	0.13	3.3	Cloudy	
Brackettville, Texas	28.71	729.2	29.69	754.1	75	23.9	86	S	3	1.3	.....	0	10n	.....	Calm	0.55	14.0	Light rain	
Breckenridge, Minnesota	29.03	737.3	30.01	762.2	56	13.3	94	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.77	756.1	29.84	757.9	84	28.9	79	SE	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.10	739.1	29.77	756.1	65	18.3	84	NW	6	2.7	.....	1k	0	NW	.....	2.46	62.5	Clear	
Burkes, Arizona	.....	.....	.....	.....	81	27.2	55	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.36	745.7	29.60	751.8	70	21.1	84	N	2	0.9	.....	5k	2s	NW	NW	2.67	67.8	Cloudy	
Cairo, Illinois	29.52	749.8	29.89	759.2	75	23.9	86	N	8	3.6	.....	.....	10s	.....	N	0.55	14.0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	60	15.6	70	NE	.....	.....	1	2ck	0	Calm	.....	0	0	Fair	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	73	22.8	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.72	678.7	30.21	767.3	75	23.9	68	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.36	694.9	29.93	760.2	40	4.4	83	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.94	760.5	29.94	760.5	82	27.8	79	SW	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.87	758.7	29.89	759.2	77	25.0	77	S	21	9.4	.....	5cs	0	SE	.....	0	0	Fair	
Cape Lookout, N. Carolina	29.93	760.2	29.95	760.7	83	28.3	83	SW	20	8.9	.....	2k	0	SW	.....	0	0	Fair	
Cape May, New Jersey	29.72	754.9	29.74	755.4	76	24.4	77	S	24	10.7	.....	5k	5s	W	W	0	0	Cloudy	
Castroville, Texas	29.07	738.4	29.74	755.4	75	23.9	90	SE	2	0.9	.....	.....	10s	.....	SE	0.82	20.8	Cloudy	
Charleston, South Carolina	29.95	760.7	30.01	762.2	83	28.3	79	SW	5	2.2	.....	1k	0	Calm	.....	0	0	Clear	
Cheyenne, Wyoming	24.14	613.1	30.08	764.0	58	14.4	94	S	12	5.4	.....	0	8s	.....	S	0.50	12.7	Clearing	
Chicago, Illinois	29.20	741.7	29.86	758.4	68	20.0	74	NE	3	1.3	.....	0	Sm'e	.....	.....	0	0	Clear	
Cincinnati Ohio	29.19	741.4	29.80	756.9	73	22.8	81	N	6	2.7	.....	6c;k	0	W;NE	.....	0.72	18.3	Fair	
Cleveland, Ohio	29.12	739.6	29.89	759.2	70	21.1	75	N	6	2.7	.....	5ck	2ks	NW	N	1.11	28.2	Fair	
Columbus, Ohio	29.05	737.9	29.81	757.2	73	22.8	81	N	.....	.....	1	.....	10ks	.....	N	0.18	4.6	Cloudy	
Corpus Christi, Texas	27.97	710.4	29.56	750.8	74	23.3	90	Calm	0	0	.....	.....	10s	.....	N	1.14	29.0	Cloudy	
Corsicana, Texas	29.40	746.7	29.84	757.9	78	25.6	91	S	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.31	744.5	29.92	760.0	70	21.1	85	Calm	0	0	.....	0	Sm'e	.....	N	0.46	11.7	Clear	
Denison, Texas	29.06	738.1	29.82	757.4	72	22.2	100	NE	2	0.9	.....	5cs	5s	Calm	Calm	4.38	111.3	Cloudy	
Denver, Colorado	24.90	632.4	30.12	765.0	62	16.7	83	Calm	0	0	.....	.....	Fog	.....	.....	0.05	1.3	Foggy	
Detroit, Michigan	29.19	741.4	29.83	757.7	64	17.8	78	NW	5	2.2	.....	Haze	0	Calm	.....	1.85	47.0	Clear	
Dodge City, Kansas	27.44	697.0	29.66	753.4	66	18.9	89	N	8	3.6	.....	2cs	2s	SW	NE	0	0	Fair	
Dubuque, Iowa	29.25	742.9	29.92	760.0	68	20.0	84	NE	1	0.4	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Duluth, Minnesota	29.31	744.5	29.97	761.2	61	16.1	71	NW	8	3.6	.....	5k	0	NW	.....	0	0	Fair	
Eagle Pass, Texas	29.01	736.8	29.71	754.6	77	25.0	95	Calm	0	0	.....	5k	0	Calm	.....	0.06	1.5	Fair	
Eastport, Maine	29.49	748.3	29.52	749.8	61	16.1	97	S	35	15.6	.....	.....	10n;fg	.....	S	1.38	35.1	Heavy rain	
El Paso, Texas	.....	.....	.....	.....	80	26.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.10	739.1	29.78	756.4	68	20.0	84	NW	3	1.3	.....	8k	0	N	.....	1.15	29.2	Cloudy	
Escanaba, Michigan	29.28	743.7	29.91	759.7	62	16.7	61	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	83	28.3	53	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.53	648.4	29.60	751.8	70	21.1	61	W	3	1.3	.....	2cs	0	SW	.....	0	0	Fair	
Fort Davis, Texas	25.17	639.3	30.13	765.3	68	20.0	68	NE	3	1.3	.....	5c	5s	E	NE	0.50	12.7	Cloudy	
Fort Gibson, Indian Ter	29.34	745.2	29.85	758.2	74	23.3	90	N	1	0.4	.....	5c	2s	Calm	NW	1.43	36.3	Fair	
Fort Griffin, Texas	28.60	726.4	29.81	757.2	75	23.9	86	N	3	1.3	.....	.....	10s	.....	N	1.35	34.3	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10n	.....	Calm	0.33	8.4	Light rain	
Fort Sill, Indian Territory	28.69	728.7	29.74	755.4	73	22.8	90	NE	8	3.6	.....	.....	.....	.....	.....	0	0	Clear	
Galveston, Texas	29.82	757.4	29.86	758.4	85	29.4	76	S	6	2.7	.....	2k	0	Calm	.....	Inap.	Inap.	Clear	
Grand Haven, Michigan	29.27	743.4	29.89	759.2	68	20.0	65	Calm	0	0	.....	0	0	.....	.....	1.53	38.9	Clear	
Indianapolis, Indiana	29.11	739.4	29.86	758.4	70	21.1	80	N	7	3.1	.....	2cs	0	.....	.....	0.01	0.3	Fair	
Indianola, Texas	29.80	756.9	29.83	757.7	85	29.4	79	SW	3	1.3	.....	6ck;k	0	W;S	.....	0.01	0.3	Fair	
Jacksboro, Texas	28.76	730.5	29.84	757.9	75	23.9	90	N	5	2.2	.....	.....	10s	.....	N	0.70	17.8	Cloudy	
Jacksonville, Florida	29.97	761.2	30.00	762.0	84	28.9	79	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.27	743.4	29.85	758.2	75	23.9	77	E	4	1.8	.....	0	0	.....	.....	0.41	10.4	Clear	
Key West, Florida	29.91	759.7	29.94	760.5	82	27.8	75	SE	16	7.2	.....	5cs	5ks	Calm	SE	0.38	9.7	Cloudy	
Kittyhawk, North Carolina	29.85	758.9	29.91	759.7	80	26.7	78	SW	21	9.4	.....	0	Haze	.....	Calm	0	0	Clear	
Knoxville, Tennessee	28.93	734.8	29.88	758.9	76	24.4	82	W	6	2.7	.....	5c	5s	NW	Calm	1.12	28.4	Cloudy	
La Crosse, Wisconsin	29.20	741.7	29.91	759.7	63	17.2	89	NW	1	0.4	.....	0	0	.....	.....	0.04	1.0	Clear	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0.40	10.2	Clear	
Laredo, Texas	29.41	747.0	29.78	756.4	75	23.9	90	Calm	0	0	.....	.....	10s	.....	Calm	2.61	66.3	Cloudy	
Lead City, Dakota	24.91	632.7	.....	.....	57	13.9	81	S	3	1.3	.....	0	0	.....	.....	.0	0	Clear	
Leavenworth, Kansas	29.08	738.6	29.80	759.2	70	21.1	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.54	750.3	29.58	758.9	63	17.2	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.29	744.0	29.82	757.4	72	22.2	85	N	6	2.7	.....	.....	10s	.....	N	1.74	44.2	Cloudy	
Lynchburg, Virginia	29.16	740.7	29.79	756.7	82	27.8	59	W	4	1.8	.....	0	8ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.22	742.2	29.89	759.2	62	16.7	77	N	9	4.0	.....	8k	0	NW	.....	0	0	Cloudy	
Mason, Texas	28.21	716.5	29.87	758.7	75	23.9	95	N	2	0.9	.....	.....	10n	.....	NE	0.02	0.5	Light rain	
Memphis, Tennessee	29.57	751.1	29.87	758.7	79	26.1	86	NE	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Milwaukee, Wisconsin	29.20	741.7	29.90	759.4	68	20.0	84	NW	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.90	759.4	29.94	760.5	86	30.0	80	S	3	1.3	.....	5c	1s	Calm	Calm	0	0	Fair	
Montgomery, Alabama	29.70	754.4	29.93	760.2	82	27.8	74	Calm	0	0	.....	5c	0	Calm	.....	0.54	13.7	Fair	
Morgantown, West Virginia	28.89	731.5	29.89	759.9	71	21.7	80	Calm	0	0	.....	.....	10s	.....	NW	1.00	25.4	Cloudy	
Mt. Washington, N. H.	23.52	597.4	29.88	758.9	51	10.6	100	NW	42	18.8	.....	.....	10n	.....	NW	2.92	74.7	Light rain	
Nashville, Tennessee	29.36	745.7	29.86	758.4	76	24.4	91	W	2	0.9	.....	.....	10s	.....	Calm	1.84	46.7	Heavy rain	
New Haven, Connecticut	29.55	750.6	29.66	753.4	74	23.3	81	SW	9	4.0	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
New London, Connecticut	29.62	752.3	29.67	753.6	73	22.8	90	SW	16	7.2	.....	2ck	8s	SW	SW	0.01	0.3	Cloudy	
New Orleans, Louisiana	29.85	758.2	29.91	759.7	84	28.9	79	Calm	0	0	.....	5c	Haze	Calm	Calm	0.04	1.0	Fair	
Newport, Rhode Island	29.62	752.3	29.67	753.6	70	21.1	85	SW	19	8.5	.....	.....	10ks	.....	SW	0	0	Threatening	
New York, New York	29.53	750.0	29.70	754.4	76	24.4	72	W	14	6.3	.....	.....	10ks	W;Calm	.....	Inap.	Inap.	Light rain	
Norfolk, Virginia	29.81	757.2	29.87	758.7	82	27.8	67	SW	19	8.5	.....	10c	0	Calm	.....	0	0	Cloudy	
North Platte, Nebraska	27.18	690.4	29.66	753.4	65	18.3	89	E	6	2.7	.....	5k	0	E	.....	0.14	3.6	Fair	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	57	13.9	87	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.88	733.5	29.92	760.0	69	20.6	80	N	4	1.8	.....	5ck	0	NW	.....	0	0	Fair	
Oswego, New York	29.40	746.7	29.71	754.6	67	19.4	84	NW	12	5.4	.....	.....	10s	.....	NW	2.13	54.1	Cloudy	
Pembina, Dakota	29.21	741.9	30.03	762.7	52	11.1	93	NW	2	0.9	.....	5k	0	NW	.....	0	0	Fair	
Philadelphia, Pennsylvania	29.66	753.4	29.79	754.4	78	25.6	69	SW	20	8.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
Phœnix, Arizona	.....	.....	.....	.....	88	31.1	56	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.01	457.4	30.22	767.6	33	0.6	100	W	10	4.5	.....	.....	10n	.....	W	0.42	10.7	Light snow	
Ploche, Nevada	24.07	611.4	29.84	757.9	63	17.2	24	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.01	736.8	29.78	756.4	70	21.1	80	NW	3	1.3	.....	8k	2s	N	NW	0.15	3.8	Cloudy	
Port Huron, Michigan	29.18	741.2	29.82	757.4	65	18.3	73	NW	8	3.6	.....	0	0	.....	.....	1.87	47.5	Clear	
Portland, Maine	29.48	748.8	29.52	749.8	69	20.6	95	S	8	3.6	.....	2k	8n	Calm	SW	0.20	5.1	Light rain	
Portland, Oregon	30.04	763.0	30.15	765.8	54	12.2	87	Calm	0	0	.....	0	10ks	.....	NW	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.60	629.9	30.16	766.1	59	15.0	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.99	761.7	30.01	762.2	84	28.9	79	E	9	4.0	.....	2ck	5ks	W	NE	0 12	3.0	Fair	
Red Bluff, California	29.44	747.8	29.78	756.4	75	23.9	44	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.16	740.7	29.74	755.4	65	18.3	84	NW	6	2.7	.....	.....	8ks	.....	N	1.40	35.6	Clearing	
Roseburg, Oregon	29.62	749.8	30.09	764.3	51.5	10.8	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.71	754.6	29.70	756.7	66	18.9	64	S	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.36	745.7	29.91	759.7	74	23.3	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.95	760.7	29.97	761.2	79	26.1	95	SE	4	1.8	.....	5k	2s	Calm	Calm	0.27	6.9	Fair	
St. Paul, Minnesota	29.11	739.4	29.91	759.7	65	18.3	73	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	67	19.4	37	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.14	740.1	29.69	754.1	74	23.3	95	S	2	0.9	.....	.....	10s	.....	Calm	2.40	61.0	Cloudy	
San Diego, California	29.83	757.7	29.90	759.4	63	17.2	83	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.21	741.9	29.85	758.2	70	21.1	80	N	11	4.9	.....	8k	2ks	N	N	1.30	33.0	Cloudy	
Sandy Hook, New Jersey	29.75	755.6	29.78	756.4	77	25.0	73	W	21	9.4	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	
San Francisco, California	29.76	755.9	29.83	757.7	53	11.7	86	SW	7	3.1	.....	0	Fog	.....	Calm	0	0	Fair	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	55	12.8	56	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.88	758.9	29.97	761.2	87	30.6	70	SW	7	3.1	.....	0	Haze	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.05	758.1	29.86	758.4	81	27.2	87	SW	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Silver City, New Mexico	24.33	618.0	30.34	770.6	60	15.6	82	Calm	0	0	.....	0	0	.....	.....	0.90	22.9	Clear	
Smithville, North Carolina	29.96	761.0	29.99	761.7	82	27.8	83	SW	13	5.8	.....	0	5ks	.....	SW	0	0	Fair	
Springfield, Massachusetts	29.47	748.6	29.79	751.8	72	22.2	90	SW	3	1.3	.....	.....	10n	.....	SW	0.28	7.1	Light rain	
Stockton, Texas	26.86	682.2	29.86	758.4	68	20.0	60	NW	12	5.4	.....	.....	10ks	.....	NE	0	0	Cloudy	
Thatcher's Island, Mass.	29.54	750.3	29.60	751.8	60	15.6	100	SW	12	5.4	.....	.....	Fog	.....	Calm	0.14	3.6	Dense fog	
Toledo, Ohio,	29.19	741.4	29.83	757.7	68	20.0	84	NE	8	3.6	.....	.....	10s	.....	NE	1.30	33.0	Cloudy	
Tucson, Arizona	27.42	696.5	29.97	761.2	79	26 1	61	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.94	760.5	29.97	761.2	84	28.9	79	SW	4	1.8	.....	Haze	2ks	Calm	Calm	0	0	Fair	
Umatilla, Oregon	29.66	753.4	.....	.....	60	15.6	65	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.67	753.6	29.92	760.0	83	28.3	75	SW	4	1.8	.....	2o	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.34	618.2	29.82	757.4	52	11.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.47	748.5	29.84	757.9	61	16.1	71	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.64	752.8	29.75	755.6	79	26.1	70	S	9	4.0	.....	5ck	5ks	SW	SW	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	62	16.7	67	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.80	756.2	29.96	761.0	80	26.7	86	SW	8	3.6	.....	0	Haze	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.62	650.7	29.98	761.5	56	13.3	46	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.68	753.6	29.68	753.9	71	21.7	85	SW	18	8.0	.....	.....	10s	.....	S	0	0	Threatening	
Yankton, Dakota	28.78	731.0	30.03	762.7	64	17.8	78	N	3	1.3	.....	0	0	.....	.....	0.05	1.3	Clear	
Yuma, Arizona	29.60	751.8	29.75	755.6	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.72	754.9	29 77	756.1	60.0	15.6	91	E	18	8.0	.....	2c	0	E	.....	0.50	12.7	Fair	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.90	759.4	29.92	760.0	82	27.8	74	SE	3.6	1.6	.....	8c	2ks	.....	SE	0.03	0.8	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.13	765.8	30.14	765.5	79	26.1	95	Calm	0	0	.....	2c	8n	SE	Calm	0.75	19.1	.....	F. M. Everett.
Navassa, W. I.	29.93	760.2	30.01	762.2	83	28.3	.....	E	18.3	8.2	.....	.....	.....	.....	.....	0.25	6.3	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.10	764.5	30.10	764.5	82	27.8	83	E	.....	.....	2	5k	8ks	E	.....	0.120	3.05	½ Cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herrin.
Medellin, Colombia, S. A.	25.25	641.3	.....	.....	69.0	20.6	76	E	7	3.1	.....	1k	1ks	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,192 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.8 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.6 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,587 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,323 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.87 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	29.89	759.2	61	16.1	58	14.4	76	SW	11	4.9	....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Navy Yard, Pensacola, Fla.	30.08	764.0	83	28.3	83	28.3	83	SW	2	0.9	....	.....	2	.....	SE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.98	761.5	75	23.9	69	20.6	85	NW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.91*	759.7*	79.6	26.4	80	26.7	78	SW	.....	.....	4	.....	3k;s	.....	WNW	0	0	.....	.....	Fair.....	
Adams. Apia, Samoan Islands	30.04	763.0	80	26.7	79	26.1	91	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	29.93‡	760.2‡	.....	.....	66	18.9	94	NW	.....	.....	0–1	.....	5	.....	NW	.....	.....	.....	.....	Hazy.....	
Ashuelot. Nagasaki, Japan	30.02	762.5	83	28.3	82	27.8	96	ESE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Alaska, S. 17° 33′, W. 38° 23′	30.37	771.4	76	24.4	75	23.9	64	ENE	.....	.....	5	.....	6	.....	E	0	0	Light	E	D. clouds.....	
Canonicus, New Orleans, La	29.96	761.0	58	14.4	81	27.2	91	W	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....	Cloudy.....	
Colorado. New York, N. Y.	29.69‡	754.1‡	.....	.....	78	25.6	73	W	6	2.7	.....	.....	8	.....	WNW	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	29.94‡	760.5‡	.....	.....	65	18.3	94	WNW	.....	.....	3	.....	5	.....	W	.....	.....	.....	.....	Pleasant.....	
Despatch, Prince's Islands, Sea of Marmora	29.55‡	750.6‡	.....	.....	85	29.4	57	SW	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va	29.99	761.7	79	26.1	78	25.6	73	SSW	12	5.4	.....	.....	5?	.....	Calm	0	0	.....	.....	Clear?.....	
Gettysburg Villefranche, France	29.67‡	753.6‡	.....	.....	81	27.2	78	ESE	.....	.....	1	.....	0	.....	.....	0	0	Light	SW	Clear.....	
Hartford, Rio de Janeiro, Brazil	29.97	761.2	.....	.....	77	25.0	89	N	10.8	4.8	.....	.....	5	.....	N	0	0	.....	.....	Fair.....	
Marion, Villefranche, France	29.70	754.4	78	25.6	79	26.1	57	E	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa.	29.35	745.5	72	22.2	68	20.0	70	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Raining.....	
Monocacy. Yokohama, Japan	29.85‡	758.2‡	.....	.....	82	27.8	87	SSW	.....	.....	2	.....	5	.....	SSW	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.19†	766.8†	.....	.....	82	27.8	83	W	10	4.5	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	62	16.7	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.88	758.9	79	26.1	74	23.3	95	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Mare Island, California	29.89	759.2	63	17.2	57	13.9	94	SW	6	2.7	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Plymouth. New York, N. Y.	29.68‡	753.9‡	.....	.....	77	25.0	77	W	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Cloudy.....	
Ranger. Hong-Kong, China	29.99*	761.7*	.....	.....	82	27.8	83	S	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Raining.....	
Rio Bravo, Brownsville, Texas	29.80	756.9	82	27.8	82	27.8	96	ESE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md.	29.76‡	755.9‡	.....	.....	79	26.1	70	WSW	.....	.....	2	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.70	754.4	79	26.1	78	25.6	73	SW	13	5.8	.....	.....	10	.....	SSW	.....	.....	.....	.....	Raining.....	
Supply, Havre, France	29.98	761.5	66	18.9	67	19.4	84	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass	29.61‡	752.1‡	.....	.....	74	23.3	100	SW	.....	.....	3	.....	10	.....	S;W	.....	.....	.....	.....	Rainy.....	
Trenton, Lisbon, Portugal	29.96‡	761.0‡	.....	.....	91	32.8	69	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Tuscarora, Acapulco, Mexico	29.71	754.6	79	26.1	78	25.6	86	Calm	.....	.....	0	.....	8	.....	Calm	0.06	1.5	.....	.....	Fair.....	
Vandalia, N. 33° 59′, E. 34° 03′	29.65‡	753.1‡	.....	.....	86	30.0	76	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear.....	
Wabash, Boston, Mass	29.60‡	751.8‡	.....	.....	73	22.8	90	SSW	6	2.7	.....	.....	10	.....	Calm	0.09	2.3	.....	.....	Light rain...	
Wyoming, N. 44° 20′, W. 48° 05′	30.16†	766.1†	.....	.....	59	15.0	94	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Smooth	.....	Misty.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper	Lower	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

S. S. Alaska																			
S. S. China, Yokohoma, Japan		30.03*	762.7*	82	27.8	100	SW			3		3		SW	0	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.13*	765.3*				NW			2		10						Fair	Capt. Seabury.
S. S. City of Peking, N. 36° 55′, W. 155° 58′		30.39†	771.9†	68	20.0	95	SW	13	5.8			0			0	Smooth		Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 36° 15′, W. 122° 28′		29.92†	760.0†	54	12.2	100	Calm			0		0			0	Mod'ate ground	WNW	Misty	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. Fuller.
S. S. Zelandia																			Capt. Ghost.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 41° 3′, W. 67° 36′		29.81*	757.2*	65	18.3	89	SW			5				W		Slight	SW	Variable	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 50° 10′, W. 20° 29′		30.10†	764.5†	60	15.6	??	N			4		7		N	7 hours	Light	W	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic, N. 41° 10′ W. 138° 19′		30.27*	768.8*	60	15.6	??	Var.			2		c		Var.	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 37° 40′, W. 69° 20′		29.93	760.2	78.5	25.8	89	SSW			5		10		SW	Blank		SW	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		29.94*	760.5*	81	27.2	87	SW			3		9		SW	Light			Cloudy	Captain Sargent.
S. S. Ohio, Liverpool		29.92	760.0	74	23.3	72	W			2		4		W	Light			Clear.	Captain Morrison.
S. S. Pennsylvania, N. 40° 19′, W. 69° 19′		30.00†	762.0†	70	21.1	100	SSW			4		6?		SW	0.50 in or 12.7 mm.	Mod'ate	SW	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 40° 34′, W. 69° 24′		29.82*	757.4*				SSW	25	11.2			2		W		Mod'ate	WSW	Hazy	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, N. 65° 55′, W. 58° 5′		29.62*	752.3*								1c	6ks			0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 28, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			29.98	761.5	70.2	21.2	84	SW			1		3			0	0	Pretty fair.	Dr. Ollive.
Nemours			29.86	758.3	85.6	29.3	66	NNW			1		0			0	0	Clear	Michel.
Algiers			29.85	758.3	84.2	29.0	64	NE			4		0			0	0	Clear	Tourillerc.
La Calle			29.95	760.6	80.1	26.7	65	NW			1		2			0	0	Fair	Foufrede.
Tunis			29.93	760.2	86.5	30.3		Calm			0		0			0	0	Clear	Jacques.
Sfax			30.01	762.2	87.8	31.0		ENE			4		0			0	0	Clear	Gau.
Saida			29.96	760.9	91.2	32.9	24	N			1		5			0	0	Cloudy	Herbin.
Tebessa			29.92	760.0	84.6	29.2	21	Calm			0		0			0	0	Clear	Watrin.
Geriville			29.95	760.6	86.4	30.2	62	S			1		4			0	0	Cloudy	Brugniaux.
Laghouat			29.98	761.6	93.2	34.0	22	Calm			0		0			0	0	Clear	Bertrand.
Biskra			29.93	760.2	95.9	35.5		E			3		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.23	742.2	29.75	755.6	72.1	22.3	65	NW			3		7			0	0		Prof. Ivan Stosu.
Cracow	29.02	737.0	29.75	755.6	68.0	20.0	72	SE			1		10			0	0		Prof. Dr. Karlinski.
Eperies	28.84	732.6	29.69	754.0	69.0	20.9	72	N			3		10s			0.055	1.40		Julius Mikolik.
Gratz	28.58	725.8	29.78	756.3	70.3	21.4	70	NW			4		2			0.346	8.80		Andreas Rospini.
Hermannstadt	28.28	718.2	29.64	752.8	70.0	21.1	63	ESE			1		5			0.268	6.55		Prof. Reissenberg
Kremsmünster	28.47	723.2	29.76	756.0	67.6	19.8	65	WNW			4		7			0	0		Prof. C. Wagner
Lemberg	28.90	734.0	29.78	756.4	68.5	20.3	56	SW			2		9			0	0		Dr. T. Stanecki.
Pola	29.66	753.4	29.77	756.2	73.4	23.0	64	WNW			3		6ks			0	0		I.R.Hydrographic Office
Szathmar	29.22	742.3	29.66	753.4	77.7	25.4	45	SE			4		5			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.72	754.8	29.82	757.4	77.0	25.0	60	W			1		3			0	0	½ Clear	P. Busin.
Vienna	29.06	738.1	29.74	755.4	75.0	23.9	41	WNW			5		4			0.020	0.5		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.46	722.8	29.03	760.3	63.3	17.4	69	NW			1		8			0.154	3.9		Prof. M. Passau.
Brussels	29.73	755.2	29.93	760.1	64.9	18.3	52	ENE			1		2		NNE	0	0		Royal Observatory
Furnes	29.97	761.2	29.99	761.8	63.1	17.3	76	NNE			2		10			0.024	0.6		M. E. de Cae.
Maeseyck	29.79	756.6	29.91	759.8	65.8	18.5	71	NW			1		6			0.035	0.9		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

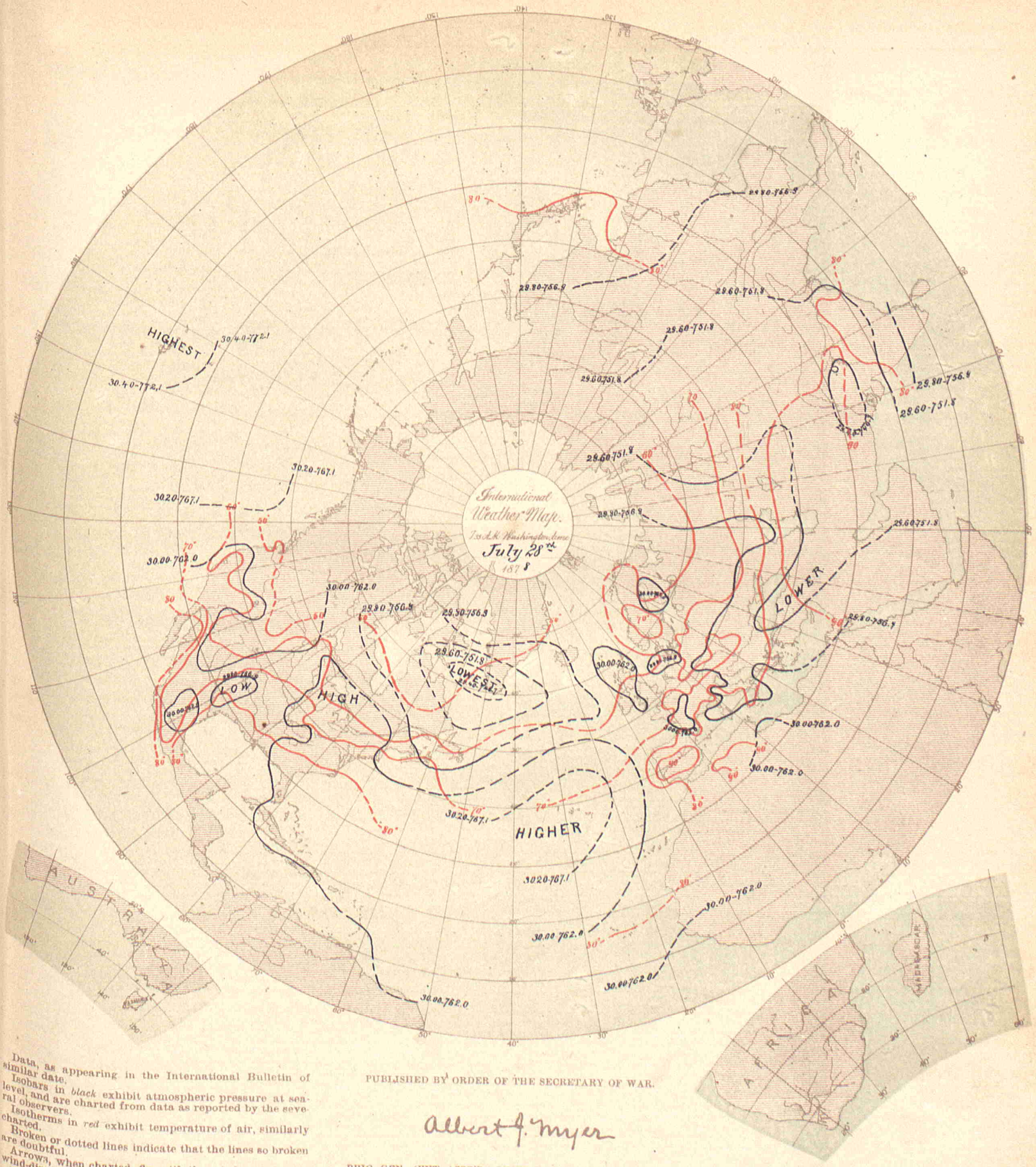
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.92	760.0	30.02	762.5	56.9	13.8	.....	NW	11	4.9	.....	.....	9	.....	.....	0.010	0.25	Overcast	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.01	762.2	63.2	17.3	.....	NE	4	1.8	.....	.....	8	.....	.....	.....	.....	Overcast..	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.97	761.2	62.2	16.8	.....	WNW	7	3.1	.....	.....	9	.....	.....	.....	.....	D. clouds	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	29.97	761.2	65.0	18.3	.....	E	1	0.4	.....	.....	.....	.....	.....	.....	.....	.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.0	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	4?	.....	.....	.....	.....	Overcast?..	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	82.5	28.1	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.97	761.2	68.0	20.0	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	H. Todd. [H.C.
Cardington	.....	.....	29.97	761.2	68.0	20.0	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	John McLaren.
Chatham, School M. E	29.83	757.7	29.96	761.0	66.7	19.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	Fine	Lt. W. G. Morris, R. E.
Dartmoor	28.50	723.9	29.93	760.2	62.0	16.7	.....	NE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	Alexander Watt.
Donaghadee	29.96	761.0	30.00	762.0	60	15.6	.....	N	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.93	760.2	29.96	761.0	65	18.3	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	⅛ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	29.96	761.0	66.7	19.3	.....	NW	0.8	0.4	.....	.....	10	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Falmouth, Observatory	29.74	755.4	29.97	761.2	58.5	14.7	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	The Staff.
Fort Napier, (Natal)	27.62	701 5	29.92	760.0	78.4	25.8	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.79	756.7	30.02	762.5	83	28.3	.....	W	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.92	760.0	66	18.9	.....	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.90	759.4	29.95	760.7	81.8	27.7	.....	E	.....	.....	2	.....	1?	.....	.....	.....	.....	Gloomy	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.86	758.4	30.07	763.8	64.1	17.8	.....	NNE	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.98	761.5	29.99	761.7	63	17.2	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.78	756.4	29 95	760.7	66.5	19.2	.....	ENE	.....	.....	1	.....	9	.....	.....	.....	.....	Nearly overcast.	The Staff, for G. B. Airy.
Guernsey	29.75	755.6	29.97	761.2	60	15.6	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Showery	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.00	762.0	65	18.3	.....	E	.....	.....	2	.....	10k	.....	.....	0.5	13.	Raining	M. P. Moyle.
Holyhead	29.94	760.5	30.00	762.0	60	15.6	.....	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.72	754.9	30.00	762.0	63.0	17.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	J. Fisher.
Kew, Observatory	.....	.....	29.95	760.7	66.1	18.9	.....	NE	7	3.1	.....	.....	7	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.98	761.5	30.01	762.2	64	17.8	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	.....	.....	29.97	761.2	65.5	18.6	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.75	755.6	29.95?	760.7?	83	28.3	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Sgt. Hewlit, A. H. C.
Nairn	29.94	760.5	30.03	762.7	59	15.0	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.07	763.8	86.0	30.0	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.78	756.4	29.97	761.2	72.3	22.4	.....	SSE	.....	.....	3	.....	4k;ks	.....	E	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.45	748.0	29.96	761.0	63.1	17.3	.....	NE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.96	761.0	65	18.3	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	29.90	759.4	29.97	761.2	63.2	17.3	.....	E	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.90	759.4	29.95	760.7	64	17.8	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Solar halo	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.03	762.7	56.3	13.5	.....	WNW	14	6.3	.....	.....	6	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.54	750.3	88.0	31.1	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.72	754.9	29.99	761.7	69.6	20.9	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	D. clouds	W. F. Cooper.
Silloth Rectory	29.95	760.7	29.98	761.5	68.4	20.2	56	SW	.....	.....	1	.....	5	.....	.....	0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.68	751.3	29.99	761.7	66.0	18.9	.....	N	.....	.....	1	.....	7	.....	.....	.....	.....	Hazy	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	29.91	759.7	30.03	762.7	59	15.0	.....	NNW	.....	.....	3	.....	6	.....	.....	.....	.....	.....	John Sutherland.
Strafield Turgiss	29.74	755.4	29.95	760.7	70.2	21.2	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.02	762.5	59	15.0	.....	N	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	30.02	762.5	63	17.2	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	.....	.....	29.88	758.9	61.3	16.3	.....	E	20	8.9	.....	.....	10	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.94?	760.5?	45.0	7.2	86	SW	.....	.....	2	.....	7k	.....	.....	0.3	8.	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.94	760.5	30.13	765.3	72.3	22.4	56	WNW	4.5	2.0	.....	0	2	.....	.....	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.12	765.0	30.21	767.3	45.2	7.3	92	W	12	5.4	.....	.....	9	.....	.....	0.08	2.0	Showery	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 61° 5′ W. 49° 50′	.....	.....	29.30	744.2	38	3.3	.....	ESE	.....	.....	5	.....	9	.....	.....	3	S	Rain and fog	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. O. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 46° 35′, W. 52° 35′	.....	.....	29.75	755.6	56	13.3	.....	SSW	.....	.....	3	.....	.....	.....	.....	4	.....	Rain and fog	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.20	665.5			68.4	20.2	92	NE			2	4p;clc				0	0		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.79	756.7	29.84	757.9	64.6	18.1	79	SSE			2		10					
Fanöe	29.77	756.1	29.79	756.6	59.5	15.3	98	ENE			4		10					Raining
Godthaab, (Greenland)	29.41	747.0	29.45	748.1	50.2	10.1		ENE			2		9					Raining
Stykkisholm, (Iceland)	29.74	755.4	29.78	756.5	54.3	12.4	89	S			10		10					Raining
Thorshavn, (Faröe)	30.03	762.7	30.07	763.6	53.8	12.1	73	SE			2		3					
Vestervig	29.65	753.1	29.82	757.4	64.0	17.8	66	E			2		8					

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.60	749.2	30.05	763.2	69.8	21	43	W			2	5			0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.81	757.1	29.91	759.8	70.9	21.6	70	NW			2	2		NW	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.80	756.8	29.87	758.8	81.9	27.7	40	N			2	0			0	0	Clear	M. Giraud, Director.
Bar-sur-Seine	29.39	746.5	29.94	760.4	71.4	21.9	53	W			1	6km		W	0.004	0.1	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																		Albert Cheux.
Beauvais	29.66	753.4	29.94	760.4	73.8	23.2	46	WSW			3	8		WSW	0	0	Very cloudy	Normal School.
Besançon	29.08	738.7	29.94	760.5	70.3	21.3	49	W			4	10		SW	0.339	8.6	Covered	Normal School.
Bourg-en-Bresse	29.13	739.9	30.05	763.5	75.7	24.3	61	N			2	5ck		N	0	0	Cloudy	Normal School.
Bourges, Normal School	29.41	747.1	30.01	762.2	72.0	22.2	68	NW			2	k		NW	0.24	6.		A. Wagner, Director.
Brest, Naval Observatory	29.66	753.4	29.90	759.5	65.5	18.6	92	SW			1	10		SW	0.108	2.75	Raining	The Staff.
Carcassonne, Normal School	29.57	751.1	29.97	761.3	71.6	22	72	W			2	2		NW	0.24	6.	Slightly cl'dy	Septembre, Director.
Caen																		Normal School.
Chartres, Normal School	29.35	745.6	29.89	759.3	74.5	23.6	65	NW			2	7		S	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.6	29.89	759.3	74.3	23.5	47	NNW			3	8ck		NW	0	0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.69	726.2	29.90	759.4	71.6	22.0	48	NW			2	8			0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.07	738.4	29.93	760.1	69.4	20.8	67	WNW			2	2		ESE	0.354	9.00	Slightly cl'dy	Dr. Coulot, Director.
Commune de Grésque*	28.77	730.7	29.91	759.7	66.0	30.0	23	NW			2	2		NW	0	0	¾ Covered	M. Kina.
Grenoble, Normal School																		M. Ablard, Director.
La Roche-sur-Yon, N. School	29.80	756.9	30.01	762.2	67.3	19.6	65	W			2	10			0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.04	752.9	29.94	760.5	69.6	20.9	63	WNW			4	8		W	0.020	0.50	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.04	737.7	29.92	760.0	72.9	22.7	66	SW			2	10		NW	0.457	11.60	Covered	Baudry, Director.
Lorient, Naval Observatory	29.88	758.9	29.94	760.4	64.8	18.2	92	Calm			0	10			0.161	4.1	Covered	T. Carré, Director.
Mâcon, Normal School	29.25	743.0	29.91	759.7	71.6	22	74	NW			4	5		NW	0.469	11.9	Cloudy	M. Galzin, Director.
Mirecourt	28.91	734.3	29.92	760.0	68.2	20.1	61	NW			4	2		SE	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.64	752.8	29.83	757.6	66.6	29.8	36	NW			1	0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.68	751.4	29.95	760.8	75.2	24	82	S			2	2		S	0.08	2.	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.60	754.2	29.93	760.1	71.2	21.8	41	W			1	8		W	0	0	Very cloudy	National Observatory.
Privas, Normal School	28.87	733.2	29.88	759.0	75.2	24	49	N			2	2		N	0	0	Slightly cov.	M. Cantier.
Puy de Dome (Summit)																		Alluard, Director.
Rochefort, Naval Obs'y	29.98	761.4	30.01	762.2	72.5	22.5	47	SW			3	10		SW	0	0	Covered	Lt. Decante, Director.
Rouen, Normal School	29.85	758.2	29.93	760.3	72.1	22.3	54	NW			1	5		NW	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)																		M. H. Hercouet.
Tarbes, Normal School	28.96	735.6	30.00	762.0	62.4	28	74	SE			2	0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.22	742.1	29.90	759.4	77.7	25.4	60	N			2	5		N	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																		
Fort de France, Martinique			29.91	759.8	82.4	28									2.48	63.		L'Abbé Marchès.
Lyons																		L. Jays.
Marseilles, Observatory			29.80	757.0	64.0	28.9	35	W			2-3	1			0	0	Clear	The Staff.
Mont-Louis	24.93	633.2	30.24	768.2	65.3	18.5	42	WNW	26.1	11.67		2		NW	0	0		M. Cave.
Nice			29.82	757.5	70.2	26.2	67	SW			1	1			0	0		Dr. A. Niepce.
Perpignan	29.65	753.2	29.93	760.2	71.6	22.0	44	W			2	8		W	0	0		Marié Davy, Director
Pic du Midi, (Summit,) H. P.			29.90	761.0	79.0	26.1	44	N	18.0	8.83		0			0	0		Dr. Fines.
Pic du Midi, (Plantade,) H. P.																		M. Baylac.
Saint Maur, (near Paris)	22.63	574.7			56.3	13.5		N			1	1			0	0	Clear	Gen'l de Nansouty
Toulouse, Observatory	29.76	756.0	29.93	760.2	71.4	21.9	48	WSW			1	8	WNW	WSW	0	0		E. Renou.
Tours	29.33	745.0	30.06	763.4	71.8	22.1	51	NW			1	6			0	0		The Staff.
Versailles, (near Paris)	29.79	756.6	29.98	761.6	69.8	20.7	67	NW			1	10		WNW	0.016	0.4		C. Marquet.
Zi-Ka-Wei, (near Shanghai)			29.94	760.5	72.3	22.4	82	NW			1	6			0	0	Fair	Dr. A. Bérigny.
	29.83	757.6	29.85	758.2	80.4	26.9	88	SE	34.2	15.3		0			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.96	735.5	29.80	756.8	71.6	22.0	62	WNW			3		3	W		0.24	6.	Thunder-storm.	Prof. Dr. Hoh.
Berlin	29.67	753.6	29.84	757.8	70.7	21.5	68	SE			1		8			0.075	1.9	Raining	Prof. Arndt.
Breslau	29.31	744.5	29.84	757.9	73.4	23.0	63	NE			2		10					Sprinkling	Royal University Obs'y
Carlsruhe	29.45	747.9	29.85	758.3	69.4	20.8	77	SW			2		7			0.161	4.1		Albert Senz.
Cassel	29.26	743.3	29.87	758.6	66.9	19.4	57	NW			3		5	SW		0.058	1.47		Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.8	64.4	18.0	73	N			1		8n			0.43	11.	Raining	Director Lose.
Emden	29.81	757.2	29.85	758.2	61.3	16.3	64	NW			1.5		10			0.165	4.2		Prof. Prestel.
Frankfort on the Main	29.56	750.9	29.91	759.8	73.8	23.2		NNE			2		4			0	0		Physical Society.
Friedrichshafen	28.60	724.0	29.89	759.3	68.7	20.4	75	SSW					5	SW		0	0		M. Wilhelm.
Hamburg	29.72	754.9	29.79	756.7	68.3	14.6	91	W			5		10n			0.402	10.2	Heavy rain.	Captain F. Hegemann.
Kiel	29.75	755.7	29.77	756.1	63.0	17.2	83	ESE			3		10			0.534	13.54		Prof. G. Karsten.
Königsberg, (Prussia)	29.81	757.1	29.89	759.1	73.4	23.0	42	E			3		0			0	0		Prof. E Luther.
Köslin			29.84	757.9	73.9	23.3		SE			2		1			0	0		H. Müller.
Leipsic, Observatory	29.45	748.1	29.86	758.4	69.8	21.0	67	NW			1		8	W		0.067	1.7		Prof. Bruhns.
Memel, Naval School	29.87	758.6	29.91	759.8	68.5	20.3	40	NW			2		1ck						Reinbrecht and Skalweit.
Neufahrwasser	29.88	759.0	29.90	759.4	68.5	20.3	62	NE			3		8	WSW		0	0		A. Lothes.
Posen	29.57	751.1	29.84	758.0	80.6	27.0	40	SW			6		7			0	0		Dr. Magener.
Strassburg (in Alsace)	29.39	746.6	29.93	760.2	65.7	18.7	88	SSE			3		10	SSE		0.133	3.38	Raining	Astronomical Observatory.
Stuttgart	28.98	736.2	29.90	759.4	66.2	19.0	67	NW			1		9	N		0.043	1.1	Raining	Prof. Schoder.
Treves, (Trier)	29.29	743.9	29.81	757.1	64.9	18.3	76	E			2		10			0.076	1.92	Foggy	Prof. Flesch.
Weissenburg, (Bavaria)	28.40	721.3	29.84	757.8	67.3	19.6	74	NW	4	2			9ck		NW	0.039	1.0		Dr. Von Bebber.
Wustrow, Naval School	29.83	757.6	29.87	758.6	65.1	18.4	75	ESE			2		10			0.102	2.6		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.26	743.2	29.63	752.7	83.1	28.4		SW			5.0							Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.39	746.4	29.44	747.7	81.7	27.6	83	W	10?	4.5?			10			3.20	81.3	Threatening	
Deesa	29.02	737.2	29.50	749.2	80.7	27.1	92	S					10		W	0.12	3.0	Drizzling	
Bombay	29.64	752.7	29.67	753.7	82.1	27.8	85	WSW	23	10.3			10		WSW	0.08	2.0	Overcast	
Poona	27.67	702.8	29.68	753.8	73.8	23.2	84	W					10		W	0.62	15.7	Showery	
Lahore	28.75	730.2	29.46	748.3	96.2	35.7	46	NE	2.3	1.0			10			0	0		
Belgaum	27.25	692.2	29.80	757.0	71.8	22.1	92	WNW	9	4.0			10		WNW	0.49	12.4	Showery	
Bangalore																			
Roorkee	28.60	726.4	29.47	748.6	89.2	31.8	69	Calm	2.6	1.2			7			0	0		
Agra	28.86	733.0	29.40	746.7	93.6	34.2	62	E	8	3.6					E	0	0		
Trichinopoly																			
Nagpur	28.52	724.5	29.56	750.8	78.9	26.1	83	SW	13.5	6.0			9		E	1.32	33.5	Gloomy	
Madras																			
Lucknow	29.10	739.0	29.46	748.3	84.3	29.1	83	NNE	10.6	4.7			10			0	0	Overcast	
Allahabad	29.14	740.2	29.45	748.0	81.9	27.7	90	E	6.5	2.9			10		E	0.65	16.5	Overcast	
Patna	29.36	745.7	29.54	750.2	82.7	28.2	91	E	1.8	0.8			10	E	E	0.23	5.8	Overcast	
Hazaribagh	27.54	699.4	29.53	750.1	77.3	25.2	92	E	9.7	4.3			10		E	1.12	28.4	Thunder-storm	
Cuttack	29.52	749.7	29.60	751.8	82.0	27.8	79	Calm	2.6	1.2			8			0	0	D. clouds	
Calcutta (Alipore)	29.55	750.5	29.57	751.1	80.9	27.2	89	SE					7		S	0.06	1.5	Lightning	
Goalpara	29.27	743.4	29.65	753.2	80.8	27.1	82	SE	5.3	2.4			9		SE	0.59	15.0	D. clouds	
Chittagong	29.62	752.4	29.72	754.8	82.1	27.8	83	SE	5.3	2.4			10			0	0	Overcast	
Sibsagar	29.33	745.0	29.66	753.5	83.4	28.6	77	SW	3.0	1.3			10	W	W	1.14	29.0	D. clouds	
Rangoon																			
Jubbulpore	28.14	714.8	29.50	749.2	79.0	26.1	80	SW	5.1	2.3			10			2.18	55.4	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,939 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.3	29.82	757.3	76.5	24.7	52	SE	1.3	0.6	.....	.....	4	.....	.....	0.024	0.6	.....	Prof. Giovanni Clodig.
Padua	29.69	754.1	29.80	756.8	78.6	25.9	47	SSE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.88	758.9	29.79	756.6	79.3	26.3	52	S	0	0	.....	.....	1	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.51	724.2	29.76	756.0	79.5	26.4	46	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	28.92	734.6	29.79	756.6	79.5	26.4	40	ESE	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.94	709.6	29.76	755.9	77.4	25.2	35	NE	.....	.....	4	.....	1	SW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.61	752.2	29.83	757.6	80.2	26.8	62	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.66	753.2	29.82	757.4	77.9	25.5	65	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.48	748.8	29.78	756.5	81.5	27.5	44	NNW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.55	750.5	29.79	756.7	79.7	26.5	39	SW	.....	.....	4	.....	2	.....	.....	0.673	17.1	.....	Cav. F. Meucci.
Leghorn	29.71	754.7	29.80	756.8	79.5	26.4	45	WSW	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.80	756.9	29.85	758.1	71.4	21.9	48	NW	.....	.....	.....	.....	2	.....	.....	0.787	20.0	.....	Prof. Luigi Guidi.
Urbino	28.33	719.5	29.82	757.4	70.9	21.6	44	NE	.....	.....	1	.....	0	.....	.....	0.098	2.5	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.60	751.7	29.76	756.0	80.4	26.9	32	N	18.1	8.1	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.57	751.1	29.76	756.0	81.5	27.5	43	SE	.....	.....	2	.....	5	NE	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	76.6	24.8	56	NW	12.5	5.6	.....	.....	3	NW	.....	0.008	0.2	.....	Prof. C. De Giorgi.
Cagliari	29.62	752.4	29.81	757.1	82.4	28.0	42	NW	.....	.....	4	.....	1	W	.....	0	0	.....	Prof. A. Palmotti.
Cosenza	28.90	734.0	29.74	755.4	78.1	25.6	71	SW	3.1	1.4	.....	.....	8	.....	.....	0 157	4.0	.....	Prof. F. D. Conti.
Palermo	29.57	751.1	29.82	757.3	80.4	26.9	51	WNW	20.6	9.2	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.68	753.8	29.75	755.7	82.0	27.8	56	E	.....	.....	4	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.24	742.7	29.80	756.8	79.9	26.0	62	ESE	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.78	756.4	29.97	761.2	80.3	26.8	86	WSW	0.6	0.3	.....	.....	3s	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) Observatory	29.82	757.4	29.89	759.2	79.1	26.2	86	SSW	7.3	3.3	.....	0	0	.....	.....	0	0	Clear	
Tokei (Yeddo) University	29.78	756.4	29.87	758.8	80	26.7	91	SSW	7	3.1	.....	1cs	.....	.....	.....	0	0	Fine	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	63.1	17.3	96	NE	0.9	0.4	.....	0	8k	.....	E	0.35	9.0	Cloudy	L. Castillo, A. E.
Guadalajara	25.04	636.0	29.98	761.5	60.8	16.0	85	W	1.8	0.8	.....	0	8	.....	E	0	0	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.7	18.2	85	SE	0.9	0.4	.....	0	10n	.....	.....	1.38	35.1	Covered	Prof. M. Leal.
Mexico	23.09	586.4	30.01	762.3	69.5	15.3	77	NW	0.9	0.4	.....	1c	2s	N	.....	0.04	1.1	Clear	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.9	18.3	87	Calm	0	0	.....	0	8ks	.....	.....	0.20	5.0	Rainy	M. V. de Leon, M. E
Puebla	23.32	592.4	29.96	761.0	57.9	14.4	86	E	1.8	0.8	.....	5c	5cs	.....	.....	0.31	7.8	Cloudy	Prof. B. Gonzales.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.24	614.8	30.10	764.5	63.0	17.2	68	W	0.9	0.4	.....	0	10	.....	W	0.22	5.5	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.85	758.1	29.88	758.7	84.2	29.0	78	Calm	0	0	.....	6ck	3k	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	82	SSW	5.1	2.3	.....	0	8	.....	.....	0.35	9.0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.5	29.99	761.8	56.3	13.5	73	NE	4.6	2.0	.....	1	0	.....	.....	0.21	5.4	Clear	Prof. P. Spina, [M.M.D.D.
Morelia	24.11	612.5	.....	.....	64.4	18.0	66	E	0.9	0.4	.....	0	10k	.....	E	0.40	10.1	Covered	M. Tena, F.L. Paramo,
Durango	24.19	614.4	29.97	761.3	67.6	19.7	92	Calm	0	0	.....	0	3s	.....	.....	0.12	3.0	Clear	M. V. de Leon, C. E.
Colima	28.37	720.7	29.98	761.4	82.4	28.0	80	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,498 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.5 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.97	761.2	29.97	761.2	64.4	18.0	.....	N	.....	.....	4	.....	.....	.....	.....	0.024	0.6	.....	
Groningen	29.82	757.4	29.87	758.8	63.0	17.2	.....	NW	.....	.....	2	.....	.....	.....	.....	0.130	3.3	.....	
Helder	29.93	760.2	29.93	760.2	60.8	16.0	.....	NW	.....	.....	2	.....	.....	.....	.....	0.028	0.7	.....	
Hellevoetsluis	29.95	760.8	29.95	760.8	67.6	19.8	59	NNW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.89	759.3	29.94	760.5	66.6	19.2	62	NNW	.....	.....	3	.....	5	.....	.....	0.016	0.4	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low't 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.83	757.6	29.88	759.0	64.0	17.8	76	SSW	3.6	1.6	.....	.....	8	.....	.....	0.181	4.6	Rain & fog..	
Brönö	29.85	758.1	29.89	759.1	69.8	21.0	64	SW	9	4	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.72	754.9	29.86	758.5	73.9	23.3	36	SE	7	3	.....	.....	7	.....	.....	0.012	0.3	.....	
Tromsö	29.82	757.3	29.86	758.4	65.5	18.6	52	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h..4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.21	767.2	30.39	772.0	73.2	22.9	76	SE	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.89	733.9	29.84	757.8	97.9	36.6	13	E	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.91	759.8	30.00	762.0	76.3	24.6	66	SW	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.51	749.5	29.84	758.0	96.8	36.0	12	NNE	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.22	767.6	30.29	769.4	78.1	25.6	67	NE	4.9	2.2	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47', E. 11° 47'	.....	.....	30.04	762.9	68.0	20.0	.....	W	.....	.....	2	.....	6	.....	W	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, Port Melville	.....	.....	29.98	761.6	75.2	24.0	.....	E	.....	.....	4	.....	0	.....	.....	4	E	Blue sky	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54', W. 25° 04'	.....	.....	29.98	761.6	79.7	26.5	.....	NE	.....	.....	2	.....	10	.....	NE	2	NE	Drizzling	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	.....	.....	29.95	760.6	73.4	23.0	.....	NW	.....	.....	1	.....	6	.....	.....	1	.....	D. Clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.41	747.1	29.82	757.3	75.7	24.3	44	SE	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.48	748.9	29.89	759 1	72.3	22.4	37	NW	2	1	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.73	755.1	29.97	761.1	64.8	18.2	64	NW	4	2	.....	.....	9k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.93	760.1	29.94	760.5	60.4	15.8	68	N	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.19	741.3	29.80	756.8	70.5	21.4	40	E	4	2	.....	.....	9ks;k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.63	752.6	29.70	754.4	74.1	23.4	51	NE	18	8	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.62	752.4	29.64	752.9	82.0	27.8	69	NE	4	2	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.37	745.9	29.89	759.3	64.8	18.2	68	NW	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.55	750.6	29.75	755.6	70.2	21.2	48	ENE	22	10	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.86	758.5	29.88	759.0	49.1	9.5	87	NW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.31	719.1	29.62	752.4	90.9	32.7	60	E	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.90	759.4	29.82	757.3	79.9	26.6	32	SSE	7	3	.....	.....	3cs;s	.....	.....	.....	.....	Dust-haze	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.66	760.7	29.82	757.3	64.9	18.3	63	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.70	729.0	29.61	752.1	64.0	17.8	60	NNE	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.39	746.6	29.61	752.1	94.1	34.5	38	NNE	7	3	.....	.....	1ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.07	712.9	29.62	752.4	94.3	34.6	26	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	28.97	735.7	29.46	748.3	67.5	19.7	89	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.26	743.1	29.53	750.0	75.2	24.0	77	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.68	753.9	29.82	757.5	78.3	25.7	87	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 52° 47', E. 8° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.82	757.4	29.92	760 0	79.0	26.1	66	SE	1.7	0.78	.....	5k	2ks	W	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.92	759.9	29.97	761.3	79.2	26.2	55	S	2.8	1.24	.....	6	2	NE	.....	Inap.	Inap.	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.07	687.5	.....	.....	80.6	27.0	48	NW	6.0	2.70	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.75	704.9	29.81	757.2	93.4	34.1	22	SW	3.0	1.33	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.76	756.0	29.91	759.6	89.8	32.1	61	NE	5.6	2.50	.....	.....	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.06	738.0	29.91	759.6	80.8	27.1	48	NE	4.2	1.86	.....	2	0	W	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.94	760.5	30.00	762.1	82.6	28.1	80	E	8.8	3.7	.....	8c;ck	0	N	.....	Inap.	Inap.	Cloudy	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.77	756.3	29.87	758.7	80.1	26.7	71	S	17.1	7.6	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.97	761.3	30.07	763.6	83.8	28.8	85	NE	0	0	.....	4k	8kn	NE	NE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.98	761.6	30.02	762.6	66.2	19.0	.....	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.03	762.8	30.08	764.1	58.3	14.6	57	E	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	29.98	761.5	30.03	762.8	63.3	17.4	56	ESE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.80	757.0	29.98	761.5	65.3	18.5	55	E	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.83	757.7	29.80	759.2	66.6	19.2	68	NNE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.88	758.9	29.93	760.8	70.3	21.3	39	ENE	7.4	3.3	.....	.....	8	NNW	.....	0	0	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.53	724.7	29.91	759.6	72.9	22.7	56	NE	.....	.....	2	.....	3	.....	.....	0.461	11.7	Clear	The Observatory.
Zurich	28.32	719.3	29.90	759.4	72.7	22.6	66	W	.....	.....	2	.....	2	.....	.....	0	0	Bright	The Observatory.
.....																			
.....																			
.....																			

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.1 mm.; Thermometer, +0.1 cent.; Relative Humidity, +8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.60	751.7	83.7	28.7	56	SW	7	3.0	.....	.....	4	.....	SW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.67	753.8	76.1	24.5	.....	NW	.....	.....	2	.....	10	.....	.....	0.67	22.	Raining	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.67	751.1	29.69	754.0	92.8	33.8	64	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.78	756.4	30.08	764.0	69	20.6	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.74	755.4	29.80	756.9	63	17.2	72	W	8	3.6	.....	0	0	.....	.....	0.02	0.5	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.73	755.1	29.78	756.4	66	18.9	93	W	6	2.7	.....	2k	0	Calm	.....	0.060	1.52	Fair	H. J. Cundall, C. E
Cornwall, Ontario	29.87	758.7	30.06	763.5	60.9	16.1	72	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.62	752.3	29.78	756.4	57.9	14.4	75	W	.....	.....	4	.....	.....	.....	.....	0.05	1.3	Fine	H. A. Johnson.
Esquimault, B. C	30.02	762.5	30.06	763.5	55.2	12.9	100	SW	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.83	757.7	29.85	758.2	54	12.2	71	W	20	8.9	.....	0	2ks	.....	Calm	0.02	0.5	Clear	J. McWilliams.
Fredericton, N. B	29.83	757.7	29.89	759.2	63.2	17.3	67	NW	12	5.4	.....	1k	d	NW	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.13	739.9	29.93	760.2	63	17.2	91	SW	7	3.1	.....	Haze	5s	Calm	Calm	0	0	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.03	737.3	30.11	764.8	60	15.6	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.68	753.9	29.81	757.2	70	21.1	80	W	5	2.2	.....	0	0	.....	.....	0.484	12.29	Clear	F. Allison, M. A.
Hamilton, Ontario	29.77	756.1	30.15	765.8	62.7	17.1	75	W	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.67	753.6	29.69	754.1	60	15.6	94	SW	.....	.....	1	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.79	756.7	30.12	765.0	65	18.3	69	SE	2	0.9	.....	5c	0	W	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.73	755.1	29.77	756.1	71.0	21.7	.....	SW	6	2.7	.....	4ck	0	SW	.....	0.16	4.1	Fair	C. H. Rigby.
*Montreal, Quebec	29.80	758.4	30.05	763 3	60	15.6	60	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.44	747.8	30.12	765.0	62	16 7	85	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.10	764.5	66.7	19.3	73	Calm	.....	.....	0	2k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.43	747.5	30.11	764.8	62	16.7	83	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.47	748.5	30.10	764.5	63	17.2	84	N	4	1.8	.....	2k	0	NW	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.68	753.9	30.00	762.0	56	13.3	69	W	.....	.....	1	0	0	.....	.....	0.11	2.8	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.66	753.4	30.11	764.5	57	13.9	81	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. Andrews, N. B	29.83	757.7	29.88	758.9	65	18.3	68	NW	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear	Dr. Gove.
St. John, N. B	29.74	755.4	29.90	759.4	64	17.8	67	W	10	4.5	.....	3k	0	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.44	747.8	30.14	765.5	65	18.3	75	SW	5	2.2	.....	2k	0	W	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.74	755.4	29.77	756.1	70	21.1	86	SW	8	3.6	.....	8cs	2ks	SW	W	0.26	6.6	Fair	T. C. Hill.
*Toronto, Ontario	29.74	755.4	30.11	764.8	63	17.2	60	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	68.0	20.0	90	SW	.....	.....	.....	10	.....	.....	.....	0.03	0.8	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.80	756.9	30.02	762.5	68	20.0	70	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.52	749.8	30.15	765.8	60	15.6	70	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	30.00	762.0	30.02	762.5	75	23.9	72	NW	9	4.0	.....	0	Haze	.....	Calm	0.05	1.3	Clear	
Augusta, Georgia	29.88	758.9	30.06	763.5	81	27.2	83	SE	2	0.9	.....	8c;k	2s	Calm;W	Calm	0.42	10.7	Cloudy	
Baltimore, Maryland	29.98	761.5	30.02	762.5	75	23.9	68	N	8	3.6	.....	0	Haze	.....	Calm	0.07	1.8	Fair	
Barnegat, New Jersey	30.01	762.2	30.03	762.7	72	22.2	58	N	6	2.7	.....	0	0	.....	.....	0.06	1.5	Clear	
Bismarck, Dakota	28.19	716.0	30.04	763.0	66	18.9	64	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
BoiseCity, Idaho	27.18	690.4	30.06	763.5	58	14.4	57	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.84	757.9	29.99	761.7	72.5	22.5	56	NW	10	4.5	.....	0	0	.....	.....	0.01	0.3	Clear	
Brackettville, Texas	28.73	729.7	29.72	754.9	76	24.4	91	S	1	0.4	.....	.....	10n	.....	Calm	0.76	19.3	Light rain	
Breckenridge, Minnesota	29.00	736.6	29.98	761.5	55	12.8	93	E	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.84	757.9	29.90	759.4	81	27.2	91	Calm	0	0	.....	5c	0	Calm	.....	0.87	22.1	Fair	
Buffalo, New York	29.40	746.7	30.08	764.0	65	18.3	68	N	3	1.3	.....	1ck	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	50	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.82	757.4	30.08	764.0	62	16.7	46	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.64	752.8	30.02	762.5	73	22.8	81	NE	5	2.2	.....	.....	10s	.....	NE	0	0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	55	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Camp Grant, Arizona	25.23	640.8	30.03	762.7	69	20.6	52	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.62	676.1	30.10	764.5	65	18.3	68	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.42	696.5	29.99	761.7	42	5.6	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.05	763.3	30.06	763.5	82	27.8	87	SW	10	4.5	.....	5cs	5s	SW	SW	0	0	Cloudy	
Cape Henry, Virginia	30.06	763.5	30.03	764.0	76	24.4	95	W	5	2.2	.....	.....	10n	.....	Calm	1.28	32.5	Light rain	
Cape Lookout, N. Carolina	30.05	763.3	30.06	763.5	84	28.9	87	SW	19	8.5	.....	8cs	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	30.01	762.2	30.04	763.0	76	24.4	52	NE	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.10	739.1	29.77	756.1	78	25.6	91	SE	4	1.8	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Charleston, South Carolina	30.05	763.3	30.11	764.8	86	30.0	80	SW	6	2.7	.....	9c;k	0	Calm;W	.....	0	0	Fair	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	51	10.6	93	NW	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.39	746.5	30.05	763.3	73	22.8	68	SE	6	2.7	.....	8k	0	E	.....	0	0	Fair	
Cincinnati Ohio	29.38	746.2	30.01	762.2	71	21.7	62	NE	6	2.7	.....	5ck;cs	0	NE	.....	0	0	Fair	
Cleveland, Ohio	29.37	746.0	30.08	764.0	65	18.3	78	S	5	2.2	.....	5k	0	NW	.....	0	0	Fair	
Columbus, Ohio	29.27	743.4	30.05	763.3	69	20.6	56	Calm	.....	.....	0	8cs	0	Calm	.....	0	0	Fair	
Corpus Christi, Texas	27.95	709.9	29.55	750.6	74	22 8	95	E	3	1.3	.....	.....	10s	.....	E	1.50	38.1	Cloudy	
Corsicana, Texas	29.45	748.0	29.80	759.2	78	25.6	91	SW	3	1.3	.....	5cs	0	W	.....	0.38	9.7	Fair	
Davenport, Iowa	29.43	747.5	30.04	763.0	72	22.2	76	E	1	0.4	.....	2c;ck	0	W	.....	0	0	Fair	
Denison, Texas	29.12	739.6	29.88	758.9	74	23.3	95	NW	1	0.4	.....	.....	10s	.....	Calm	3.38	85.9	Cloudy	
Denver, Colorado	24.84	630.9	30.06	763.5	58	14.4	76	S	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Detroit, Michigan	29.43	747.5	30.03	764.0	67	19.4	69	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.44	697.0	29.63	752.6	70	21.1	85	Calm	0	0	.....	5c	5s	Calm	Calm	0	0	Cloudy	
Dubuque, Iowa	29.34	745.7	30.04	763.0	66	18.9	79	E	2	0.9	.....	5k	Haze	N	Calm	0	0	Fair	
Duluth, Minnesota	29.38	746.2	30.04	763.0	64	17.8	78	Calm	0	0	.....	5c	0	N	.....	0	0	Fair	
Eagle Pass, Texas	29.08	738.6	29.79	756.7	76	24.4	95	E	4	1.8	.....	.....	10s	.....	S	0.25	6.3	Cloudy	
Eastport, Maine	29.82	757.4	29.88	758.9	67	19.4	64	W	12	5.4	.....	0	0	.....	.....	0.05	1.3	Clear	
El Paso, Texas	.....	.....	.....	.....	77	25.0	69	Calm	0	0	.....	0	0	.....	.....	0.09	2.3	Clear	
Erie, Pennsylvania	29.30	746.5	30.08	764.0	68	20.0	74	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.47	748.5	30.11	764.8	59	15.0	70	N	3	1.3	.....	Sm'e	Sm'e	.....	.....	0	0	Dense smoke	
Florence, Arizona	.....	.....	.....	.....	76	24.4	49	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.58	649.7	29.64	752.8	63	17.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	66	18.9	73	NE	8	3.6	.....	.....	10ks	.....	NE	0.08	2.0	Cloudy	
Fort Gibson, Indian Ter	29.40	746.7	29.91	759.7	75	23.9	95	Calm	0	0	.....	.....	10s	.....	E	0.04	1.0	Cloudy	
Fort Griffin, Texas	28.64	727.4	29.86	758.4	73	22.8	95	Calm	0	0	.....	.....	10s	.....	.....	1.76	44.7	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.73	729.7	29.79	756.7	73	22.8	90	E	7	3.1	.....	.....	10n	.....	E	1.47	37.3	Light rain	
Galveston, Texas	29.87	758.7	29.91	759.7	85	29.4	79	SE	4	1.8	.....	2k	2ks	SE	SE	0	0	Fair	
Grand Haven, Michigan	29.48	748.8	30.11	764.8	66	18.9	69	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.29	744.0	30.04	763.0	68	20.0	70	N	4	1.8	.....	5cs;ck	2s	Calm	Calm	0	0	Fair	
Indianola, Texas	29.88	758.9	29.90	759.4	86	30.0	76	S	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.69	728 7	29.76	755.9	75	23.9	81	SE	8	3.6	.....	.....	9ks	.....	SE	0.47	11.9	Cloudy	
Jacksonville, Florida	30.04	763.0	30.06	763.5	83	28.3	83	S	1	0.4	.....	8k	0	Calm	.....	0	0	Cloudy	
Keokuk, Iowa	29.39	746.5	29.98	761.5	73	22.8	76	SE	5	2 2	.....	1c	5s	SE	Calm	0	0	Fair	
Key West, Florida	29.97	761.2	30.00	762.0	82	27.8	79	SE	9	4.0	.....	8k;cs	0	SE;S	.....	0.32	8.1	Fair	
Kittyhawk, North Carolina	30.00	762.0	30.02	762.5	78	25.6	91	W	7	3.1	.....	2ck	8ks	W	W	0.11	2.8	Cloudy	
Knoxville, Tennessee	29.04	737.6	30.00	762.0	77	25.0	86	Calm	0	0	.....	3ck	Fog	Calm	Calm	1.07	27.2	Foggy	
La Crosse, Wisconsin	29.28	743.7	29.99	761.7	72	22.2	76	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.11	663.2	30.26	768.6	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0.28	7.1	Clear	
Laredo, Texas	29.42	747.3	29.74	755.4	78	25.6	86	S	4	1.8	.....	10ck	0	Calm	.....	0	0	Cloudy	
Lead City, Dakota	24.89	632 2	.....	.....	50	10.0	86	S	1	0.4	.....	0	0	.....	.....	0.59	15.0	Clear	
Leavenworth, Kansas	29.12	739.6	29.92	760.0	71	21.7	85	Calm	0	0	.....	10c	0	W	.....	0	0	Cloudy	
Los Angeles, California	29.57	751.1	29.90	759.4	61	16.1	91	W	1	0.4	.....	.....	Fog	.....	Calm	Inap	Inap.	Foggy	
Louisville, Kentucky	29.47	748.5	30.00	762.0	72	22.2	71	NE	4	1.8	.....	.....	10ks	.....	Calm	0.21	5.3	Cloudy	
Lynchburg, Virginia	29.39	746.5	30.05	763.3	73	22.8	85	N	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.39	746 5	30.08	764.0	59	15.0	59	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.24	717.3	29.88	758.9	84	28.9	67	SE	3	1.3	.....	0	0	.....	.....	0.01	23.1	Clear	
Memphis, Tennessee	29.05	753.9	29.98	761.5	77	25.0	90	E	3	1.3	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Milwaukee, Wisconsin	29.37	746.0	30.08	764.0	67	19.4	84	Calm	0	0	.....	.....	10ks	.....	NE	0	0	Cloudy	
Mobile, Alabama	29.95	760.7	29.99	761.7	85	29.4	79	SE	4	1.8	.....	5c;k	2s	SE;Calm	S	0.47	11.9	Fair	
Montgomery, Alabama	29.80	756.9	30.02	762.5	82	27.8	78	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	29.07	738.4	30.08	764.0	73	22.8	58	NE	3	1.3	.....	1c	0	W	.....	0	0	Clear	
Mt. Washington, N. H.	23.74	603.0	30.10	764.5	36	2.2	90	NW	50	22.4	.....	.....	Fog	.....	NW	0.19	4.8	Foggy	
Nashville, Tennessee	29.48	748.8	29.99	761.7	75	23.9	90	Calm	0	0	.....	.....	10s	.....	Calm	0.69	17.5	Cloudy	
New Haven, Connecticut	29.92	760.0	30.03	762.7	76	24.4	56	N	1	0.4	.....	0	0	.....	.....	0.02	0.5	Clear	
New London, Connecticut	29.98	761.5	30.02	762.5	77	25.0	61	N	4	1.8	.....	0	0	.....	.....	0.19	4.8	Clear	
New Orleans, Louisiana	29.89	759.2	29.95	760.7	83	28.3	83	Calm	0	0	.....	2c	0	Calm	.....	0.88	22.4	Clear	
Newport, Rhode Island	29.93	760.7	30.00	762.0	72	22.2	67	NW	6	2 7	.....	0	0	.....	.....	0.03	0.8	Clear	
New York, New York	29.88	758.9	30.05	763.3	73	22.8	54	NW	1	0.4	.....	1ck	Haze	SW	.....	Inap.	Inap	Clear	
Norfolk, Virginia	29.98	761.5	30.04	763.0	76	24.4	95	N	1	0.4	.....	.....	10s	.....	Calm	0.65	16.5	Cloudy	
North Platte, Nebraska	27.12	688.8	29.61	752.1	62	16.7	91	SW	1	0.4	.....	10k	0	W	.....	0.69	17.5	Cloudy	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	49	9.4	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Omaha, Nebraska	28.86	733.0	29.89	759.2	69	20.6	80	N	3	1.3	.....	2cs	0	SW	.....	0	0	Clear	
Oswego, New York	29.77	756.1	30.09	764.3	66	18.9	59	NE	4	1.8	.....	2k	8ks	NW	NW	0	0	Cloudy	
Pembina, Dakota	29.17	740.9	29.97	761.2	60	15.6	88	S	8	3.6	.....	5c	5s	NW	Calm	0	0	Fair	
Philadelphia, Pennsylvania	29.99	761.7	30.04	763.0	74	23.3	63	N	9	4.0	.....	5c;ck	Sm'e	W	Calm	0.07	1.8	Fair	
Phœnix, Arizona	28.73	729.7	.....	.....	91	32.8	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.05	458.5	30.26	768.6	37	2.8	38	NW	12	5.4	.....	0	0	.....	.....	0.04	1.0	Clear	
Ploche, Nevada	24.16	613.6	29.92	760.0	63	17.2	14	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.29	744.0	30.09	764.3	61	16.1	88	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.41	747.3	30.09	764.3	66	18.9	79	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	29.90	759.4	29.95	760.7	71	21.7	58	N	8	3.6	.....	0	Haze	.....	.....	0.01	0.3	Clear	
Portland, Oregon	30.06	763.5	30.16	766.1	54	12.2	87	Calm	0	0	.....	0	Fog	.....	SE	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.84	630.9	30.20	767.1	60	15.6	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Flor'da	30.01	762.2	30.02	762.5	82	27.8	79	SE	18	8.0	.....	5ck	2ks	SE	SE	0.16	4.1	Fair	
Red Bluff, California	29.40	749.0	29.83	757.7	74	23.3	47	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.48	748.8	30.07	763.8	68	20.0	70	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.62	749.8	30.10	764.5	51.5	10.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.76	755.9	29.84	757.9	65	18.3	58	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.03	762.7	72	22.2	58	E	8	3.6	.....	5c	0	Calm	.....	0	0	Fair	
St. Marks, Florida	30.00	762.0	30.02	762.5	80	26.7	87	SE	8	3.6	.....	5ck	5s	Calm	Calm	0.05	1.3	Cloudy	
St. Paul, Minnesota	29.18	741.2	29.98	761.5	63	17.2	75	N	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	64	17.8	48	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.01	736.8	29.64	752.8	77	25.0	91	Calm	0	0	.....	0	10s	.....	S	0	0	Cloudy	
San Diego, California	29.86	758.4	29.93	760.2	64	17.8	83	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.43	747.5	30.08	764.0	70	21.1	70	SW	7	3.1	.....	0ck	0	W	.....	0	0	Cloudy	
Sandy Hook, New Jersey	30.01	762.2	30.04	763.0	76	24.4	60	NW	4	1.8	.....	2ck	0	NW	.....	0.02	0.5	Clear	
San Francisco, California	29.85	758.2	29.91	759.7	51.5	10.8	93	SW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Santa Fé, New Mexico	23.42	594.9	29.96	761.0	52	11.1	54	Calm	0	0	.....	0	0	.....	.....	0.30	7.6	Clear	
Savannah, Georgia	29.90	761.7	30.08	764.0	90	32.2	73	SW	3	1.3	.....	5ck	0	SW	.....	0	0	Fair	
Shreveport, Louisiana	29.71	754.6	29.92	760.0	81	27.2	87	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	30.06	763.5	30.10	764.5	84	28.9	83	SW	16	7.2	.....	.....	10ks	.....	SW	0.19	4.8	Cloudy	
Smithville, North Carolina	24.38	619.2	30.44	773.2	58	14.4	81	Calm	0	0	.....	0	0	.....	.....	0.19	4.8	Clear	
Springfield, Massachusetts	29.83	757.7	29.95	760.7	74	23.3	59	NW	1	0.4	.....	0	0	.....	.....	0.01	0.3	Clear	
Stockton, Texas	26.92	683.8	29.92	760.0	68	20.0	60	NW	7	3.1	.....	.....	10ks	.....	Calm	0.66	16.8	Cloudy	
Thatcher's Island, Mass	29.92	760.0	29.98	761.5	66	18.9	74	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.40	746.7	30.05	763.3	70	21.1	80	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Tucson, Arizona	27.39	695.7	29.94	760.5	80	26.7	55	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.03	762.7	30.06	763.5	87	30.6	80	S	3	1.3	.....	2ck	2ks	SE	S	0.02	0.5	Fair	
Umatilla, Oregon	29.67	753.6	.....	.....	61	16.1	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.73	755.1	29.97	761.2	79	26.1	82	SE	7	3.1	.....	2c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.36	618.7	29.84	757.9	52	11.1	66	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.52	749.8	29.88	758.9	62	16.7	77	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.95	760.7	30.06	763.5	76	24.4	64	NE	7	3.1	.....	2ck	0	W	.....	0.16	4.1	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	69	20.6	39	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.00	762.0	30.07	763.8	83	28.3	83	SW	4	1.8	.....	5k	2s	W	W	0	0	Fair	
Winnemucca, Nevada	25.70	652.8	30.07	763.8	54	12.2	32	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.94	760.5	29.99	761.7	74	23.3	72	N	3	1.3	.....	2ck	0	NW	.....	0.03	0.8	Clear	
Yankton, Dakota	28.70	729.0	29.94	760.5	66	18.9	84	E	1	0.4	.....	8c	2s	W	W	0	0	Cloudy	
Yuma, Arizona	29.62	752.3	29.77	756.1	79	26.1	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.70	754.4	29.75	755.6	52.5	11.4	86	E	12	5.4	.....	2c	1s	SE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba. W. I	29.94	760.5	29.96	761.0	81	27.2	82	SE	2.4	1.1	.....	8ck	0	S	.....	0	0	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.14	765.5	30.15	765.8	82	27.8	87	Calm	0	0	.....	8c	5n	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I	29.92	760.0	30.00	762.0	84	28.9	.....	E	10	4.5	.....	.....	.....	.....	.....	0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	81	27.2	78	E	.....	.....	2	3c	4k	E	.....	0.120	3.05	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran.
Medellin, Colombia, S. A	25.22	640.6	.....	.....	68.5	20.3	66	Calm	0	0	.....	2cs	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,838 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,650 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.97	761.2	61	16.1	57	13.9	75	SW	15	6.7	.....	.....	10	.....	SW	.....	.....	.....	.....	Overcast.....	
Navy Yard, Pensacola, Fla.	30.15	765.8	86	30.0	86	30.0	76	ENE	2	0.9	.....	.....	2	.....	SE	0.28	7.1	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.12	765.0	71	21.7	67	19.4	60	NW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.92*	760.0*	80.3	26.8	79.5	26.4	84	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams, Apia, Samoan Islands	30.03	762.7	80	26.7	79	26.1	95	E	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	29.94‡	760.5‡	.....	.....	67	19.4	89	WNW	.....	.....	0-1	.....	8	.....	NW	.....	.....	.....	.....	Hazy.....	
Ashuelot, Nagasaki, Japan	30.05	763.3	85	29.4	83	28.3	100	WSW	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Alaska, S. 20° 11′, W. 39° 20′	30.33	770.4	75	23.9	72	22.2	85	NW	.....	.....	6	.....	8	.....	NW	0	0	Mod'ate	WNW	D. clouds.....	
Canonicus, New Orleans, La	30.00	762.0	57	13.9	81	27.2	96	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y	30.04‡	763.0‡	.....	.....	80	26.7	41	NW	10	4.5	.....	.....	2	.....	NW	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	29.93‡	760.2‡	.....	.....	66	18.9	94	NNW	.....	.....	3	.....	7	.....	NNW	.....	.....	.....	.....	Pleasant.....	
Despatch, Prince's Islands, Sea of Marmora	29.61‡	752.1‡	.....	.....	79	26.1	70	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Franklin, Norfolk, Va	30.16	766.1	80	26.7	78	25.6	91	NNW	5	2.2	.....	.....	10	.....	N&W	0.8	20.	.....	.....	Overcast.....	
Gettysburg Villefranche, France	29.76‡	755.9‡	.....	.....	85	29.4	96	ESE	.....	.....	1	.....	0	.....	.....	0	0	None	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.21	767.3	.....	.....	73	22.8	72	NNE	6.0	2.7	.....	.....	8	.....	WSW	0	0	.....	.....	Cloudy	
Marion, Villefranche, France	29.85	758.2	79	26.1	72	22.2	100	SSE	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Michigan, Erie, Pa	29.60	751.8	69	20.6	65	18.3	73	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy. Yokohama, Japan	29.90‡	759.4‡	.....	.....	81	27.2	87	S	.....	.....	.....	.....	2	.....	SSW	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C	30.31†	769.9†	.....	.....	84	28.9	71	SW	9	4.0	.....	.....	2	.....	.....	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	62	16.7	88	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.94	760.5	83	28.3	75	23.9	90	SSE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.98	761.5	64	17.8	56	13.3	94	SW	8	3.6	.....	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.	
Plymouth, New York, N. Y	30.04‡	763.0‡	.....	.....	78	25.6	90	NNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger, Hong-Kong, China	29.95*	760.7*	.....	.....	83	28.3	83	ESE	.....	.....	2	.....	6	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas	29.85	758.2	79	26.1	79	26.1	95	E	.....	.....	1	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md	30.04‡	763.0‡	.....	.....	74	23.3	90	N	.....	.....	2	.....	2	.....	W	0.39	9.9	.....	.....	Hazy.....	
St. Louis, League Island, Pa	30.00	762.0	75	23.9	75	23.9	77	N	6	2.7	.....	.....	0	.....	.....	0.13	3.3	.....	.....	Clear.....	
Supply, Havre, France	30.02	762.5	67	19.4	67	19.4	74	N	.....	.....	2	.....	5	.....	N	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass	29.96‡	761.0‡	.....	.....	71	21.7	90	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Lisbon, Portugal	29.80‡	756.9‡	.....	.....	93	33.9	79	NE	.....	.....	3-4	.....	0	.....	.....	0	0	.....	.....	Clear.	
Tuscarora, Acapulco, Mexico	29.70	754.4	82	27.8	83	28.3	83	Calm	.....	.....	0	.....	8	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia, N. 34° 07′, E. 30° 48′	29.70‡	754.4‡	.....	.....	82	27.8	79	WNW	.....	.....	3	.....	0	.....	.....	.....	.....	Long	WNW	Clear.....	
Wabash, Boston, Mass	29.96‡	761.0‡	.....	.....	71	21.7	62	NNW	10	4.5	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Wyoming, N. 44° 20′, W. 51° 41′	29.90†	759.4†	.....	.....	61	16.1	??	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Smooth	.....	Haze & fog..	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction from—		
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the co operation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Yokohoma, Japan		29.95*	760.7*	80	26.7	100	S			2		4		S	0	Light	S	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.22*	767.6*				NW			2		3		NW				Fair.	Capt. Seabury.
S. S. City of Peking, N. 36° 44', W. 160° 50'		30.30†	771.1†	71	21.7	90	S	16	7.2			0			0	Smooth		Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 22° 20', W. 155° 47'		30.42‡	772.7‡	78	25.6	95	NE			7		5		NE	0	Rough	NE	Fine	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, N. 51° 10', W. 11° 44'		29.86†	758.9†	62	16.7	100	E			5		10			2 hours	Light	W	Drizzling	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic																			
S. S. Oceanic, N. 39° 24' W. 127° 40'		30.17*	766.8*	62	16.7	94	W			4		k		NW	0	Swell	E	Blue sky	Capt. W. H. Kidley.
																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreesen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 38° 56', W. 64° 20'		30.04	763.0	78.0	25.6	93	SW			5		10		SW	Blank		WSW	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.27*	768.8*	81	27.2	87	W			1		2		W	0			Clear	Captain Sargent.
S. S. Ohio, Liverpool		29.93	760.2	71	21.7	75	W			1		9		WNW	0			Clear?	Captain Morrison.
S. S. Pennsylvania, Cape Henlopen, Delaware		30.11†	764.8†	78	25.6	100	WNW			1		2		NW	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 39° 17′, W. 74° 11′		30.08*	764.0*				NE	11	4.9			0			Slight	S	Clear		Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, N. 68° 2′, W. 55° 45′		29.83*	757.7*	42.2	5.7	82	E			2.5	1c	8ks		E	0			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 29, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:20 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. (1—10.	Clouds. Amount. Up'er (1—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	29.93	760.3	70.7	21.5	82	SW	.....	.....	1	.....	3	.....	.....	0	0	Pretty fair..	Dr. Ollive.
Nemours	.....	.....	29.85	758.2	67.3	30.7	65	NW	.....	.....	1	.....	2	.....	.....	0	0	Fair.....	Michel.
Algiers	.....	.....	29.81	757.1	84.9	29.4	62	NE	.....	.....	3	.....	1	.....	.....	0	0	Very fair.....	Tourillere.
La Calle	.....	.....	29.95	760.8	76.5	24.7	63	ENE	.....	.....	4	.....	1	.....	.....	0	0	Very fair.....	Foufrede.
Tunis	.....	.....	29.97	761.2	86.0	30.0	.....	N	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	Jacques.
Sfax	.....	.....	30.04	763.0	80.6	32.0	.....	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	29.95	760.7	87.8	31.0	24	WSW	.....	.....	6	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	29.94	760.5	90.1	32.3	16	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	29.97	761.1	92.3	33.5	40	SSE	.....	.....	7	.....	4	.....	.....	0	0	Cloudy.....	Brugniaux.
Laghouat	.....	.....	30.02	762.6	95.4	35.2	24	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	29.97	761.1	96.8	36 0	.....	E	.....	.....	3	.....	1	.....	.....	0	0	Very fair....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.47 ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.35	745.4	29.87	758.7	77.7	25.4	56	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozu.
Cracow	29.12	739.6	29.85	758.1	71.4	21.9	62	NE	.....	.....	1	.....	7	.....	.....	0.020	0.50	.....	Prof. Dr. Karlinski.
Eperies	28.97	735.8	29.82	757.3	67.5	19.7	84	Calm	.....	.....	0	.....	10s	.....	.....	0.040	1.15	.....	Julius Mikolik.
Gratz	28.67	728.1	29.87	758.0	72.9	22 7	71	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.40	721.3	29.75	755.6	74.1	23.4	54	ESE	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.54	725.0	29.83	757.7	69.8	21.0	62	WNW	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.85	732.8	29.75	755.7	71.2	21.8	53	SE	.....	.....	2	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Polu	29.78	756.5	29.89	759.2	81.0	27.2	58	WSW	.....	.....	1	.....	1k	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.36	745.8	29.80	757.0	78.6	25.0	42	E	.....	.....	3	.....	7	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.82	757.3	29.92	759.9	79.9	26.6	55	W	.....	.....	1	.....	2	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.17	741.0	29.86	758.4	71.1	21.7	66	W	.....	.....	3	.....	6	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.52	724.5	30.00	762.0	64.6	18.1	42	NNW	.....	.....	8	.....	5	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.81	757.1	30.00	762.1	61.5	16.4	66	W	.....	.....	2	.....	10	.....	NW	0.077	1.95	.....	Royal Observatory
Furnes	30.05	763.3	30.08	763.9	63.7	17.6	65	NW	.....	.....	3	.....	7	.....	.....	0.087	2.2	.....	M. E. de Cae.
Maeseyck	29.89	759.2	30.02	762.4	63.7	17.6	74	W	.....	.....	2	.....	10	.....	.....	0.807	20.5	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.02	762.5	30.12	765.0	57.0	13.9	.....	NNW	15	6.7	.....	.....	9	.....	.....	0.030	0.76	Drizzling	W. Boswell.
Ardrossan	30.07	763.8	30.08	764.0	62	16.7	.....	WNW	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast	George Carrick.
Armagh, Observatory	.....	.....	30.15	765 8	61.7	16.5	.....	N	6	2.7	.....	.....	6	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.06	763.5	65.0	18.3	.....	NW	13	5.8	.....	.....	7	.....	.....	.....	.....	D. clouds	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.14	765.5	67.3	19.6	.....	NNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.66	753.4	30.06	763 5	52.6	15.3	.....	N	.....	.....	1	.....	7	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	84	28.9	.....	SE	.....	.....	2	.....	3?	.....	.....	.....	.....	Overcast?	Pvt. G. W. Roberts, A. H.Todd. [H.C.
Cambridge, Observatory	.....	.....	30.03	762.7	65.0	18.3	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Cardington	.....	.....	30.04	763.0	66.4	19.1	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Lt. W. G. Morris, R. E.
Chatham, School M. E.	29.89	759.2	30.02	762.5	68.2	20.1	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds	Alexander Watt.
Dartmoor	28.52	724.4	29.94	760.5	67.0	19.4	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	Fine	J. Mac Gowan.
Donaghadee	30.08	764.0	30.11	764.8	63	17.2	.....	NNW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	J. Costello.
Dover	29.90	759.4	29.93	760.2	65	18.3	.....	WSW	.....	.....	2	.....	7	.....	.....	.....	.....	¾ clouded	Thomas Mackereth.
Eccles, (near Manchester)	.....	.....	30.04	763.0	63.8	17.7	.....	ESE	2.4	1.1	.....	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Falmouth, Observatory	29.84	757.9	30.07	763.8	65.7	18.7	.....	SE	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	Pvt. G.Salmon, A.H. C.
Fort Napier, (Natal)	27.45	697.2	29.75	755.6	80.2	26.8	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	
Free Town, (Sierra Leone)	29.78	756.4	30.00	762.0	80	26.7	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	
Galway, (Queen's College	.....	.....	30.12	765.0	65	18.3	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.76	755.9	29.81	757.2	80.1	26.7	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.89	759.2	30.09	764.3	64.6	18.2	.....	ENE	.....	.....	1	.....	9	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.03	762.7	30.03	762.7	57	13.9	.....	NW	.....	.....	2	.....	7	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.85	758.2	30.02	762.5	66.3	19.1	.....	NW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.80	756.9	30.02	762.5	67.5	19.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.08	764.0	70	21.1	.....	S	.....	.....	0	.....	0	.....	.....	0.5	13.	Fine	M. P. Moyle.
Holyhead	30.07	763.8	30.11	764.8	61	16.1	.....	WNW	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.76	755.9	30.05	763.3	69.2	20.7	.....	Calm	.....	.....	0	.....	4	.....	.....	Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	30.04	763.0	67.2	19.6	.....	NNW	3	1.3	.....	.....	9k	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	30.10	764.5	30.13	765.3	62	16.7	.....	ENE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	.....	.....	30.07	763.8	56.2	13.4	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.83	757.7	29.90	759.4	79.4	26.3	.....	NE	.....	.....	1	.....	1k	.....	.....	.....	.....	D. clouds	Sgt. Hewitt A. H. C.
Nairn	30.05	763.3	30.14	765.5	63	17.2	.....	NW	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.04	763.0	84.8	29.3	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.90	759.4	30.10	764.5	55.7	13.2	.....	NNE	.....	.....	4	.....	10k;d	.....	NNE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.52	749.8	30.03	762.7	68.1	20.1	.....	NNW	.....	.....	2	.....	9	.....	.....	.....	.....	Hazy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.04	763.0	68	20.0	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast	H.E. Bellamy.
Plymouth	29.97	761.2	30.04	763.0	70.3	21.3	.....	SW	.....	.....	2	.....	5	.....	NE	.....	.....	D. clouds	John Merrifield.
Roche's Point	30.07	763.8	30.12	765.0	68	20.0	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Fine	W. Kennedy.
Saint Ann's Head	29.91	759.7	30.07	763.8	67	19.4	.....	N	.....	.....	3	.....	1?	.....	.....	.....	.....	Overcast?	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.17	766.3	57.2	14.0	.....	NW	12	5.4	.....	.....	7	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.75	755.6	83.2	28.4	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.82	757.4	30.10	764.5	56.7	13.7	.....	N	.....	.....	1	.....	10	.....	.....	0.01	0.3	Raining	W. F. Cooper.
Silloth Rectory	30.06	763.5	30.08	764.0	66.7	19.3	52	SE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	C. Edith Redford.
Stonyhurst, Observatory	29.68	753.9	30.08	764.0	60.8	16.0	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Misty	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C. (Hebr.)	30.10	764.5	30.13	765.3	57	13.9	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	29.84	757.9	30.05	763.3	72.2	22.3	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	30.15	765.8	59	15.0	.....	N	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	30.09	764.3	76	24.4	.....	SE	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	30.13	765.3	67.9	19.9	.....	NNE	18	8.0	.....	.....	3	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	30.14	765.5	47.0	8.3	86	S	.....	.....	3	.....	6k	.....	.....	0.01	0.3	.....	Francis Abbott, F.R.A.S.
Leith, Restairig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.3	71.8	22.1	56	ESE	12.5	5.6	.....	0	2	.....	ESE	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.31	769.9	30.40	772.1	43.0	6.1	90	W	3	1.3	.....	.....	0	.....	.....	0.08	2.0	Clear	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 61° 20′ W. 50° 30′	.....	.....	29.27	743.4	44	6.7	.....	SW	.....	.....	7	.....	10	.....	.....	7	.....	Drizzling	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 45° 35′, W. 52° 30′	.....	.....	30.10	764.5	55	12.8	.....	WNW	.....	.....	2	.....	1	.....	.....	3	SW	Blue sky	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.21	665.7			70.7	21.5	86	NE			2	1c	3s		NE	Inap.	Inap.		Mr. Ansart, Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.1	29.89	759.3	64.6	18.1	63	SE			2		5						
Fanöe	29.78	756.5	29.86	757.0	61.0	16.1	79	E			4		9						
Godthaab, (Greenland)	29.13	739.9	29.17	741.0	45.3	7.4	91	S			6		10						
Stykkisholm, (Iceland)	29.76	755.9	29.80	757.0	52.5	11.4	81	S			6		10					Raining	
Thorshavn, (Faröe)	30.12	765.1	30.16	766.0	56.8	13.5	72	W			2		10					Raining	
Vestervig	29.08	753.9	29.85	758.2	66.9	19.4	61	ESE			4		2					Thunder-storm.	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.51	749.6	30.07	763.6	69.8	21	42	NE			1		5			0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.91	759.7	30.02	762.4	72.7	22.6	50	NE			2		0			0.008	0.2	Clear	Bonvallet, Director.
Avignon, Normal School	29.77	756.1	29.85	758.1	85.3	29.6	33	NW			1		0			0	0	Very clear	M. Giraud, Director.
†Bar-sur-Seine																			C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais	29.74	755.5	30.02	762.5	69.3	20.7	51	E			3		2		E	0	0	Slightly cl'dy	Normal School.
Besançon	29.10	739.2	29.96	761.0	72.7	22.6	56	E			2		2		SW	0.146	3.7	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.12	739.7	30.05	763.3	77.5	25.3	57	N			2		2k		N	0	0	Slightly cl'dy	Normal School.
Bourges, Normal School	29.47	748.5	30.03	762.7	74.1	23.4	61	NNW			2		kn		NNW	0	0		A. Wagner, Director.
Brest, Naval Observatory	29.71	754.7	29.95	760.8	78.8	26.0	65	N			1		9		N	1.211	30.75		The Staff.
Carcassonne, Normal School	29.47	748.6	29.86	758.4	89.6	32	49	W			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.40	746.7	29.94	760.5	72 0	22.2	81	ENE			2		8		S	0	0		Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.5	29.98	761.4	70.7	21.5	50	N			3		6ck		N	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.63	727.2	29.93	760.1	75.6	24.2	64	NE			1		8		SW	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.14	740.1	29.99	761.8	66.6	19.2	70	N			2		6		S	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grésque*	28.81	731.7	29.95	760.7	85.3	29.6	33	SW			2		2		SW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.78	756.4	29.98	761.6	75.9	24.4	65	WNW			1		8		NE	0.08	2.	Very cloudy	Moulliot, Director.
Le Mans, Normal School	29.69	754.1	29.99	761.7	69.8	21	70	N			6		5		NE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.05	737.9	29.93	760.1	75.7	24.3	42	W			2		2		N	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	29.90	759.5	30.00	762.0	77.0	25.0	62	S			2		8		S	0	0	¾ Covered	T. Carré, Director.
Mâcon, Normal School	29.26	743.2	29.92	759.9	73.6	23.1	74				2		0			0	0	Clear	M. Galzin, Director.
Mirecourt	28.97	735.9	29.99	761.7	66.9	19.4	61	NW			2		2		SE	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.63	752.6	29.82	757.4	88.9	31.6	24	NW			2		0			0	0	Clear	Boyer, Director.
Orleans, Normal School	29.56	750.8	29.93	760.1	81.5	27.5	50	NE			2		2		NE	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.75	755.7	29.98	761.6	70.3	21.3	46	NNE			1		5		WNW	0	0	Cloudy	National Observatory.
Privas, Normal School	28.90	734.1	29.92	760.0	76.1	24.5	55	N			2		1		N	0	0	Clear	M. Cantier.
Puy de Dome (Summit)																			Alluard, Director.
Rochefort, Naval Obs'y	29.95	760.7	29.98	761.5	77.9	25.5	45	ENE			3		0			0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	29.04	760.4	30.02	762.5	74.1	23.4	80	N			2		1		N	0	0	Clear	F. Lucard, Director.
Saint Malo (Port)																			M. H. Hercouet.
Tarbes, Normal School	28.87	733.3	29.91	759.6	75.2	24	67	SSE			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.33	744.9	30.02	762.4	79.3	26.3	70	NNE			1		2		W	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique			29.89	759.1	82.4	28													
Lyons			29.93	760.2	76.6	24.8	45						1			2.28	58.		L'Abbé Marchesi.
Marseilles, Observatory			29.86	758.4	66.4	19.1	51	W			1-2		0			0	0		L. Jays.
Mont-Louis	24.89	632.3	30.21	767.3	69.8	21.0	50	ENE	28.0	12.50			2		SE	0	0		The Staff.
Nice			29.92	759.9	76.1	24.5	75	E			3		1			0	0		M. Cave.
Paris, Montsouris Obs'y	29.71	754.6	29.98	761.6	72.9	22.7	46	ENE			3		3		NNE	0	0		Dr. A. Nieppe.
Perpignan			29.91	759.8	81.3	27.4	52	SE	11.2	5.00			1		NW	0	0		Marié Davy, Director
Pic du Midi, (Summit,) H. P.																			Dr. Fines.
Pic du Midi, (Plantade,) H. P.	22.62	574.5			62.2	16.8		SW			2		6			0	0	Fair	M. Baylac.
Saint Maur, (near Paris)	29.88	757.6	29.99	761.8	70.3	21.3	57	NW			1		9	W;WNW	WNW	0	0		Gen'l de Nansouty
Toulouse, Observatory	29.22	742.3	29.95	760.7	80.2	26.8	40	NW			3		1			0	0		E. Renou.
Tours	29.76	756.0	29.96	761.0	77.4	25.2	58	ENE			1		7		W	0.039	1.0		The Staff.
Versailles, (near Paris)			30.00	762.0	73.0	22.8	37	NE			3		7			0	0	Fair	C. Marquet.
Zi-Ka-Wei, (near Shanghai)	29.80	756.9	29.82	757.5	80.2	26.8	93	SE	4.9	2.2			0			0	0	Clear	Dr. A. Bérigny.
																			Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône. †Observation not simultaneous.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.1	29.90	759.5	69.8	21.0	68	W			2		4	W		0	0		Prof. Dr. Hoh.
Berlin	29.76	755.9	29.93	760.1	69.4	20.8	61	S			1		7			0.146	3.7	Raining	Prof. Arndt.
Breslau	29.44	747.7	29.97	761.2	65.3	18.5	77	NW			2		9			0.007	0.18		Royal University Obs'y
Carlsruhe	29.53	750.1	29.95	760.6	71.6	22.0	59	NE			1		5			0	0		Albert Senz.
Cassel	29.35	745.4	29.95	760.8	64.8	18.2	52	NNW			2		4	W		0	0		Dr. H. Möhl.
Crefeld	29.80	756.8	29.96	760.9	67.8	19.9	46	NW			4		6			0	0		Director Lose.
Emden	29.79	756.6	29.83	757.6	64.2	17.9	70	WNW			2.5		6			1.083	27.5		Prof. Prestel.
Frankfort on the Main	29.65	753.2	30.01	762.2	71.2	21.8		NW			3		5			0	0		Physical Society.
Friedrichshafen	28.53	724.7	29.91	759.7	71.2	21.8	65	SW					6	WSW		0.024	0.6		M. Wilhelm.
Hamburg	29.78	756.4	29.85	758.2	58.6	14.8	99	WSW			4		10n			0.283	7.2	Raining	Captain F. Hegemann.
Kiel	29.78	756.3	29.79	756.7	64.9	18.3	71	SW			2		8			0.297	7.54		Prof. G. Karsten.
Königsberg, (Prussia)	29.79	756.7	29.87	758.7	77.4	25.2	42	E			2		6			0	0		Prof. E Luther.
Köslin			29.92	759.9	60.8	16.0		NW			2		4			0.134	3.4		H. Müller.
Leipsic, Observatory	29.54	750.3	29.95	760.6	71.8	22.1	53	W			3		7	WSW		0.228	5.8		Prof. Bruhns.
Memel, Naval School	29.86	758.5	29.91	759.7	71.2	21.8	50	NW			2		4c;k						Reinbrecht and Skalweit.
Neufahrwasser	29.91	759.7	29.93	760.1	72.0	22.2	58	NW			3		10	WNW		0.067	1.7		A. Lothes.
Posen	29.69	754.2	29.97	761.3	67.1	19.5	77	NW			2		10			0.039	1.0		Dr. Magener.
Strassburg (in Alsace)	29.44	747.8	29.97	761.3	70.5	21.4	57	NE			2		3	WNW		0.498	12.66		Astronomical Observatory.
Stuttgart	29.05	737.9	29.96	761.0	69.3	20.7	51	N			1		5	N		0	0		Prof. Schoder.
Treves, (Trier)	29.34	745.3	29.86	758.5	70.3	21.3	88	W			3		4			0	0	Dense fog	Prof. Flesch.
Weissenburg, (Bavaria)	28.48	723.3	29.91	759.8	68.0	20.0	55	NNW	0	0			9ck		NW	0.020	0.5		Dr. Von Bebber.
Wustrow, Naval School	29.87	758.8	29.91	759.8	69.6	20.9	48	S			4		10			0.063	1.6		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.42	747.2	29.79	756.7	84.9	29.4		SW			1.5							⅛ Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.41	747.0	29.46	748.3	83.0	28.3	88	NW	21?	9.4?			10			0.49	12.4	Threatening	
Deesa	28.89	736.4	29.46	748.4	81.4	27.4	91	SSW					10		SW	0.59	15.0	Overcast	
Bombay	29.64	752.9	29.68	753.9	81.9	27.7	89	SW	23	10.3			10		WSW	0.31	7.9	Overcast	
Poona	27.69	703.3	29.69	754.2	75.2	24.0	82	W					10		W	0.22	5.6	Overcast	
Lahore	28.81	731.7	29.54	750.4	78.9	26.1	91	NE	6.8	1.7			7			1.20	30.5		
Belgaum	27.27	692.8	29.83	757.6	72.1	22.3	92	W	14	6.3			8	W	W	0.72	18.3	Showery	
Bangalore																			
Roorkee	28.60	726.5	29.47	748.6	90.2	32.3	58	SE	4.6	2.1			7			0	0		
Agra	28.86	733.0	29.40	746.9	89.7	32.1	61	E	7	3.1					E	0	0		
Trichinopoly																			
Nagpur	28.56	725.4	29.59	751.7	79.6	26.4	90	SW	9.8	4.4			9		E	0.14	3.6	Gloomy	
Madras																			
Lucknow	29.16	740.5	29.50	749.4	80.2	26.8	91	NE	7.8	3.5			10			0.18	4.6	Overcast	
Allahabad	29.20	741.6	29.50	749.3	87.7	30.9	69	SW	2.4	1.1			10			0.08	2.0	Overcast	
Patna	29.39	746.6	29.57	751.2	82.5	28.1	88	E	1.1	0.5			10	E	E	0.04	1.0	Overcast	
Hazaribagh	27.60	701.0	29.59	751.6	77.8	25.4	87	SW	6.6	3.0			10		S	0.05	1.3	Thunder-storm	
Cuttack	29.51	749.6	29.60	751.7	82.0	27.8	78	SSW	4.1	1.8			7			0.01	0.3	D. clouds	
Calcutta (Alipore)	29.58	751.4	29.61	752.0	80.2	26.8	96	E					10	S		0.78	19.8	Overcast	
Goalpara	29.28	743.6	29.66	753.4	81.3	27.4	82	SE	5.7	2.6			8	SE		0.27	6.9	D. clouds	
Chittagong	29.61	752.1	29.70	754.5	83.4	28.6	81	ESE	10.3	4.6			10			0	0	Misty	
Sibsagar	29.34	745.2	29.67	753.6	81.8	27.7	88	NNW	2.6	1.2			10	SW	SW	1.20	30.5	D. clouds	
Rangoon																			
Jubbulpore	28.19	716.1	29.54	750.4	80	26.7	85	SW	5.4	2.4			10			0.48	12.2	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,939 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.0	29.92	760.0	78.4	25.8	52	Calm	0	0	.....	.....	3	.....	.....	0.240	6.1	.....	Prof. Giovanni Clodig.
Padua	29.80	757.0	29.91	759.7	78.4	25.8	57	ESE	6.3	2.8	.....	.....	9	WSW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.72	754.8	29.90	759.5	79.7	26.5	50	SE	0.7	0.3	.....	.....	4	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.61	726.6	29.86	758.4	79.9	26.6	45	S	.....	.....	4	.....	7	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan																			Prof. Schiaparelli.
Moncalieri	29.01	736.9	29.88	758.9	77.0	25.0	52	N	3.1	1.4	.....	.....	8	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.02	711.8	29.85	758.1	75.6	24.2	52	WNW	.....	.....	4	.....	6	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.71	754.7	29.93	760.1	78.4	25.8	59	SSE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.73	755.2	29.90	759.4	77.0	25.0	66	SW	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.60	751.8	29.90	759.5	78.8	26.0	46	WNW	.....	.....	2	.....	4	.....	.....	0.004	0.1	.....	Prof. P. Pigorini.
Florence	29.64	752 8	29.88	759.0	83.8	28.8	38	NW	.....	.....	2	.....	6	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.79	756.7	29.87	758.8	80.1	26.7	60	SSW	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.86	758.4	29.91	759.6	79.7	26.5	49	NE	.....	.....	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.41	721.7	29.91	759.6	76.3	24.6	40	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto																			Avv. P. Ponticelli.
Rome	29.74	755.3	29.91	759.6	85.6	29.7	38	NNW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.74	755.5	29.94	760.4	81.5	27.5	49	SSW	.....	.....	6	.....	3	NE	.....	0	0	.....	Prof. L. Palmieri.
Lecce					78.8	26.0	46	NNW	13.0	5.8	.....	.....	4	NNW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.71	754.6	29.89	759.3	79.8	26.3	56	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.05	737.8	29.89	759.2	83.1	28.4	65	SW	3.8	1.7	.....	.....	3	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.70	754.3	29.94	760.5	78.1	25.6	59	NE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.84	758 0	29.92	759.9	81.5	27.5	54	S	.....	.....	4	.....	4	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	81.1	27.3	54	SW	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 879.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.78	756.4	29.97	761.2	78.9	26.1	87	WSW	0.6	0.3	.....	.....	0	.....	.....	0.010	0.25	Clear	
Tokei (Yeddo) Observatory	29.76	755.9	29.83	757.7	82.0	27.8	82	S	5.4	2.4	.....	3ck;cs	0	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) University	29.71	754.6	29.80	757.0	83	28.3	89	SE	4	1.8	.....	1cs	.....	.....	.....	0	0	Fine	Prof. F. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascallientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca					63.5	17.5	91	N	1.8	0.8	.....	0	9ks	.....	S	0.42	10.6	Cloudy	L. Castillo, A. E.
Guadalajara	25.04	636.0	29.97	761.2	63.5	17.5	88	NE	0.2	0.4	.....	0	8	.....	S	0	0	Cloudy	Prof. L. Perez.
Guanajuato																			Prof. V. Fernandez
Leon					65.5	18.5	80	NNE	0.9	0.4	.....	4c	2k	W	.....	0.01	0.3	½ cloudy	Prof. M. Leal.
Mexico	23.11	587.1	30.08	764.0	59.0	15.0	81	Calm	0	0	.....	3c	4ks	N	.....	0.01	0.3	Cloudy	Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalts)					63.0	17.2	89	Calm	0	0	.....	5c	1cs	.....	.....	0.52	13.3	Clear	M. V. de Leon, M. E
Puebla	23.35	593.1	29.95	760.8	59.4	15.2	93	SE	3.6	1.6	.....	0	10n	.....	S	0.13	3.4	Threatening	Prof. B. Gonzales.
Toluca																			Prof. C. Velasquez.
Tlacotalpam																			Prof. F. R. Bayly.
San Luis Potosi	24.23	614.8	30.06	763.4	64.0	17.8	79	ESE	0.9	0.4	.....	5	5	N	ESE	0.12	3.0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.89	759.1	29.92	759.8	80.0	27.0	84	Calm	0	0	.....	8ck	5sk	.....	.....	0.51	12.8	Cloudy	Prof. J. Rossell.
Zacatecas					59.0	15.0	86	NE	1.8	0.8	.....	0	10	.....	.....	1.14	29.0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.28	591.4	30.03	762.7	59.4	15.2	78	SE	2.2	1.0	.....	0	10	.....	E	0.14	3.5	Foggy	Prof. P. Spina, M.M. D. D.
Morelia	24.09	612.0	.....	.....	62.6	17.0	65	SW	0.9	0.4	.....	0	3k	.....	E	0	0	Clear	M. Tena, F. L. Paramo,
Durango	24.18	614.1	29.96	760.9	66.6	19.2	93	Calm	0	0	.....	0	10kn	.....	.....	1.23	31.2	Covered	M. V. de Leon, C. E.
Colima	28.84	710.9	29.95	760.8	80.6	27.0	80	.....	.....	.....	.....	.....	.....	.....	.....	0.57	14.4	Cloudy	R. Banda, C. E.
San Juan E. Michapam																			Antonio Guerraly Guerra.

NOTE.—The elevation of Aguascallientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36[illegible],5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.03	762.8	30.03	762.8	64.4	18.0	.....	WNW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.52	757.5	29.88	758.9	62.6	17.0	.....	NW	.....	.....	2	.....	.....	.....	.....	0.126	3.2	.....	
Helder	29.93	760.1	29.93	760.1	60.6	15.9	.....	WNW	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Hellevoetsluis	29.99	761.8	29.99	761.8	62.2	16.8	66	NW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.94	760.5	29.99	761.7	61.3	16.3	73	WNW	.....	.....	4	.....	10	.....	.....	0.004	0.1	Dull	H. v d Broek.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.93	760.1	29.98	761.5	68.0	20.0	55	WNW	8.5	3.8	.....	.....	1	.....	.....	0	0	.....	
Brône	29.97	761.3	30.01	762.3	66.2	19.0	63	N	4	2	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.82	757.4	29.96	761.0	72.9	22.7	39	E	7	3	.....	.....	6	.....	.....	0	0	.....	
Tromsö	29.94	760.4	29.98	761.5	65.1	18.4	55	NE	4	2	.....	.....	5	.....	.....	0.118	3.0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.07	763.7	30.26	768.5	73.4	23.0	76	NNW	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.79	731.2	29.75	755.7	89.9	30.5	40	SSE	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.89	759.2	29.98	761.4	75.2	24.0	67	SW	6.0	2.8	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.46	748.3	29.81	757.2	73.0	22.8	54	N	22.4	10.0	.....	.....	3	SSW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.17	766.4	30.24	768.2	73.8	23.2	60	NNE	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 38° 02′, W. 12° 18′	.....	.....	29.95	760.6	76.6	24.8	.....	NNW	.....	.....	5	.....	5	.....	NNW	6	NNW	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.02	762.4	67.1	19.5	.....	W	.....	.....	2	.....	5	.....	W	1	.....	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro, Port Melville	.....	.....	29.85	758.1	75.2	24.0	.....	E	.....	.....	4	.....	2	.....	E	3	E	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 54′, W. 25° 04′	.....	.....	30.04	763.0	82.4	28.0	.....	ENE	.....	.....	2	.....	6	.....	SE	2	NE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.95	760.6	71.6	22.0	.....	N	.....	.....	1	.....	10	.....	.....	1	.....	Overcast	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.46	748.3	29.86	758.5	75.7	24.3	46	SSE	2	1	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.50	749.4	29.91	759.6	73.9	23.3	39	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.76	755.9	30.00	761.9	66.0	18.9	53	ENE	7	3	.....	.....	5k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.97	761.3	29.99	761.7	58.6	14.8	78	NNE	7	3	.....	.....	8n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.19	741.3	29.80	756.8	70.7	21.5	34	NE	7	3	.....	.....	6k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.61	752 2	29.69	754.0	80.2	26.8	53	NNE	13	6	.....	.....	6cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.57	751.0	29.59	751.5	76.6	24.8	89	NW	9	4	.....	.....	7	.....	.....	.....	.....	Thunder-storm.	Lagorio.
Moscow	29.35	745.4	29.87	758.8	67.1	19.5	56	S	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.44	747.8	29.64	752.8	76.3	24.6	50	ENE	13	6	.....	.....	5ck	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.06	760.9	29.98	761.4	57.0	13.9	69	NNE	4	2	.....	.....	9k	.....	.....	Blank	Blank	.....	Ogorodnikof.
Tiflis	28.25	717.5	29.56	750.7	93.7	34.3	34	SE	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.83	757.6	29.74	755.5	86.9	30.5	28	E	11	5	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.54	750.2	29.80	756.8	68.5	20.3	56	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.64	727.4	29.56	750.8	56.5	13.6	75	N	7	3	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.37	745.9	29.58	751.4	97.3	36.3	44	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.08	713.1	29.63	752.6	92.5	33.8	29	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.63	737.3	29.52	749.9	69.8	21.0	87	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.25	743.0	29.52	749.9	76.8	24.9	74	NW	4	2	.....	.....	9	.....	.....	.....	.....	Dust-haze	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.57	751.1	29.71	754.7	71.8	22.1	93	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, F. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.9	29.90	759.5	80.2	26.8	65	SW	5.1	2.28	.....	2c	.....	.....	.....	0	0	Clear	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.76	755.9	29.82	757.3	84.2	29.0	65	E	2.0	0.89	.....	1	7	NE	.....	0.068	1.6	Almost cov.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.92	683.8	.....	.....	88.7	31.5	40	S	6.0	2.67	.....	.....	8	.....	.....	0	0	Clouds	Domingo Martin y Peres.
Madrid, Royal Observatory	27.61	701.2	29.66	753.3	92.8	33.8	31	S	14.9	6.67	.....	0	8	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.73	755.1	29.87	758.7	74.1	23.4	65	SW	5.7	2.53	.....	4	4	E	.....	0.008	0.21	Almost cov.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.89	733.7	29.75	755.7	69.3	20.7	78	NNE	8.0	2.67	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Santiago, Cuba, W. I.	29.98	761.4	30.04	763.0	83.5	28.6	78	ENE	4.3	1.9	.....	4c;ck	0	ENE	.....	Inap.	Inap.	Fair	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S	0	0	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.74	755.4	29.84	757.8	76.5	24.7	64	S	19.2	8.6	.....	0	8	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.2	30.02	762.5	85.6	29.8	83	SE	0	0	.....	6kn	2k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.05	763.2	30.09	764.2	67.6	19.8	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.07	763 6	30.11	764 9	65.1	18.4	62	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Hernosand	30.04	763 0	30.09	764.3	72.7	22 6	44	ENE	.....	.....	2	.....	0	.....	.....	0	0	.....	
Stockholm	29.86	758.4	30.01	762.6	64.4	18.0	51	ESE	.....	.....	6	.....	2	.....	.....	0	0	.....	
Wisby	29.86	758.5	29.92	760.0	68.7	20.4	47	ESE	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.93	760.3	30.01	762.2	70.0	21.1	38	ESE	0.7	3.0	.....	.....	3	.....	E	0	0	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of pper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.54	725.0	29 91	759.8	73.6	23.1	56	ENE	.....	.....	2	.....	3	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.35	720.2	29.94	760.4	70.7	21.5	70	W	.....	.....	2	.....	8	.....	.....	0	0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.8 mm.; Thermometer, +0.5 cent.; Relative Humidity, +3 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.79	756.7	75.6	24.2	55	N	11	5.0	.....	.....	3	.....	WNW	0.106	2.7	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.01	762.3	77.4	25 2	.....	NW	.....	.....	2	.....	0	.....	.....	0.24	6.	Clear.	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.60	751.8	29.72	754.8	93.4	34.1	57	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.90	759.4	29.98	761.5	66 9	19.4	68	SW	7	3.1	.....	5k	0	.....	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	29.81	757.2	30.11	764.8	68	20.0	.....	SW	1	0.4	.....	2c	2s	SW	SW	0	0	Fair	W. R. Bigg.
*Chatham, N B	29.97	761 2	30.03	762.7	60	15.6	76	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island.	30.02	762.5	30.06	763.5	64	17.8	73	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.07	763.8	63.0	17.7	75	SW	.....	.....	1	8cs	0	.....	.....	0	0	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.80	756.9	29.96	761.0	65	18.3	77	W	.....	.....	3	.....	.....	.....	.....	0	0	Fine.....	H. A. Johnson.
Esquimault, B. C	29.99	761.7	30.04	763.0	56.2	13.4	100	W	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.97	761.2	57	13.9	78	S	10	4.5	.....	2k	2ks	W	W	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.05	763.3	30.11	764.8	64.0	17.8	69	E	1	0.4	.....	1c	0	NW	.....	0	0	Fair.....	Prof. Harrison.
*Fort Garry Manitoba	29.01	736.8	29.81	757.2	62	16.7	94	S	1	0.4	.....	5k	5ks	W	W	0.020	0.51	Light rain..	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.98	761.5	30.07	763.8	56	13.3	100	NE	.....	.....	1	.....	10n	.....	.....	0	0	Overcast.....	James Grant.
*Halifax, N. S	29.95	760.7	30.00	764.3	67	19.4	78	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.74	755.4	30.10	764.5	62.4	16.9	80	E	2	0.9	.....	8ck	0	E	.....	0	0	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	29.95	760.7	29.98	761.5	57	13.9	61	SW	.....	.....	5	0	0	.....	.....	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.79	756.7	30.11	764.8	67	19.4	76	W	2	0.9	.....	10c	0	Calm	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	30.02	762.5	30.06	763.5	69.0	20.6	.....	W	5	2.2	.....	0	0	.....	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.90	759.4	30.10	764.5	65	18.3	73	W	4	1.8	.....	2cs	8s	.....	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.43	747.5	30.12	765.0	58	14.4	92	N	4	1.8	.....	5k	5ks	N	N	0	0	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.39	746.5	30.13	765.3	62.7	17.1	59	Calm	.....	.....	0	2k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.40	746.7	30.16	766.0	59.	15.0	88	N	4	1.8	.....	.....	Haze	.....	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	30.04	763.0	30.08	764 0	67.8	19.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.07	763.8	60	15.6	82	N	5	2.2	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.76	755.9	30.07	763.8	60	15.6	82	W	.....	.....	1	2c	2cs	W	W	0	0	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.66	753.4	30.11	764.8	55	12.8	81	Calm	0	0	.....	.....	Haze	.....	.....	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	30.05	763.3	30.10	764.5	62	16.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	29.96	761.0	30.12	765.0	61	16.1	79	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.38	746.2	30.08	764.0	58	14.4	89	E	2	0.9	.....	.....	10ks	.....	SW	0	0	Cloudy	K. Stewart.
Stayner, Ontario	29.30	744.2	30.07	763.8	61	16.1	85	Calm	0	0	.....	.....	10n	.....	Calm	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.04	763.0	30.07	763.8	70	21.1	63	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.72	754.9	30.09	764.3	62	16.7	80	N	3	1.3	.....	5cs	8s	W	Calm	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	62	W	.....	.....	.....	0	0	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,152 ft., or 360.8 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Low'r 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.89	759.2	30.11	764.8	64	17.8	78	N	2	0.9		2c	0	W		0	0	Fair	
Alpena, Michigan	29.43	747.5	30.06	763.5	65	18.3	83	S	4	1.8			10s		Calm	0	0	Cloudy	
Atlantic City, New Jersey	30.09	764.3	30.11	764.8	72	22.2	85	SE	4	1.8		8c	0	W		0	0	Fair	
Augusta, Georgia	29.91	759.7	30.03	764.0	81	27.2	87	Calm	0	0			10s		SW	0.05	1.3	Cloudy	
Baltimore, Maryland	30 04	763.0	30.08	764.0	73	22.8	85	S	4	1.8			10n		Calm	Inap.	Inap.	Light rain	
Barnegat, New Jersey	30.09	764.3	30.11	764.8	74	23.3	76	S	5	2.2		8cs	Haze	NW	Calm	0	0	Fair	
Bismarck, Dakota	27.93	709.4	29 79	756.7	68	20.0	79	S	4	1.8		0	Js		Calm	0	0	Clear	
BoiseCity, Idaho	27.18	690.4	30.06	763.5	61	16.1	40	SE	4	1.8		0	0			0	0	Clear	
Boston, Massachusetts	29.99	761.7	30.14	765.5	69	20.6	70	SE	5	2.2		5k	Haze	W	Calm	0	0	Fair	
Bracketville, Texas	28.78	731.0	29.77	756.1	75	23.9	90	Calm	0	0			10s		S	1.35	34.3	Cloudy	
Breckenridge, Minnesota	28.85	733.0	29.83	757.7	57	13.9	94	SE	3	1.3		0	0			0	0	Clear	
Brownsville, Texas	29.84	757.9	29.91	759.7	85	29.4	79	SE	2	0.9		0	0			0	0	Clear	
Buffalo, New York	29.36	745.7	30.04	763.0	64	17.8	75	E	2	1.3		Haze	Haze	Calm	Calm	0	0	Hazy	
Burkes, Arizona					81	27.2	59	Calm			0	0	0			0	0	Clear	
Burlington, Vermont	29.68	753.9	30.13	765.3	65	18.3	68	S	4	1.8		5c	0	NW		0	0	Fair	
Cairo, Illinois	29.59	751.6	29.98	761.0	78	25.6	82	S	5	2.2		2ck	5s	W	S	0	0	Fair	
Camp Apache, Arizona					64	17.8	52	E			1	0	0			0	0	Clear	
Camp Grant, Arizona	25.20	640.1	30.02	762.5	76	24.4	24	N			1	0	0			0	0	Clear	
Camp Verde, Arizona	28.71	678.4	30.10	764.5	72	22.2	46	S			1	0	0			0	0	Clear	
Campo, California	27.36	694.9	29.93	760.2	50	10.0	86	E				0	0			0	0	Clear	
Cape Hatteras, N. Carolina	30.09	764.3	30.10	764.5	82	27.8	91	SW	10	4.5		5k	0	NW		0.55	14.0	Fair	
Cape Henry, Virginia	30.08	764.0	30.10	764.5	78	25.6	86	S	6	2.7			10s		Calm	0.02	0.5	Cloudy	
Cape Lookout, N. Carolina	30.09	764.3	30.11	764.8	81	27.2	91	W	13	5.8			10n		W	0.10	2.5	Light rain	
Cape May, New Jersey	30.08	764.0	30.11	764.8	74	23.3	85	SE	8	3.6		5cs	2s	W	W	0	0	Fair	
Castroville, Texas	29.15	740.4	29.81	757.2	78	25.6	91	Calm	0	0		2ck	2ks		SE	0	0	Fair	
Charleston, South Carolina	30.08	764.0	30.14	765.5	85	29.4	79	SW	6	2.7		2c	8s	N	SW	0.06	1.5	Cloudy	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	57	13.9	75	Calm	0	0		0	0			0.20	5.1	Clear	
Chicago, Illinois	29.24	742.7	29.90	759.4	71	21.7	75	E	6	2.7		5k	5s	S	S	0.02	0.5	Cloudy	
Cincinnati Ohio	29.27	743 4	29.80	759.2	75	23.9	81	SE	4	1.8		9k	0	SW		0.05	1.3	Cloudy	
Cleveland, Ohio	29.29	744.0	29.99	761.7	66	18.9	74	E	2	0.9			10s		SW	0	0	Cloudy	
Columbus, Ohio	29.14	740.1	29.90	759.4	73	22.8	63	S			1		10s		S	0	0	Cloudy	
Concho, Texas	28.08	713.2	29.69	754.1	71	21.7	90	SW	4	1.8			10n		Calm	1.76	44.7	Heavy rain	
Corsicana, Texas	29.49	749.0	29.93	760.2	78	25.6	91	S	1	0.4		5cs;k	0	Calm;S		0	0	Fair	
Davenport, Iowa	29.30	744.2	29.91	759.7	71	21.7	71	SE	2	0.9		4c	0	SW		Inap.	Inap.	Fair	
Denison, Texas	29.15	740.4	29.92	760.0	75	23.9	95	W	3	1.3			10n		W	0.24	6.1	Light rain	
Denver, Colorado	24.89	632.2	30.11	764.8	66	18.3	81	SE	6	2.7		0	0			0.15	3.8	Clear	
Detroit, Michigan	29.36	745.7	30.01	762.2	66	18.9	84	NE	2	0.9			10n		SW	Inap.	Inap.	Light rain	
Dodge City, Kansas	27.41	696.2	29.62	752.3	65	18.3	89	NE	4	1.8		0	0			0.01	0.3	Clear	
Dubuque, Iowa	29.22	742.2	29.89	759 2	70	21.1	75	S	4	1.8		1ck	5s	Calm	Calm	0.54	13.7	Fair	
Duluth, Minnesota	29.24	742.7	29.89	759.2	66	18.9	89	N	6	2.7			10n		N	0.04	1.0	Light rain	
Eagle Pass, Texas	29.15	740.4	29.85	758.4	75	23.9	95	Calm	0	0			10cs		Calm	2.62	64.0	Cloudy	
Eastport, Maine	30.03	762.7	30.10	764.5	85	18.3	63	W	4	1.8		8c;hz	Haze	Calm	Calm	0	0	Hazy	
El Paso, Texas					77	25.0	55	Calm	0	0		0	0			0	0	Clear	
Erie, Pennsylvania	29.33	745.0	30.02	762.5	67	19.4	74	SE	1	0.4			10s			0	0	Cloudy	
Escanaba, Michigan	29.33	745.0	29.95	761.0	71	21.7	80	S	7	3.1		8k	2s	S	S	0	0	Cloudy	
Florence, Arizona					77	25.0	31	Calm			0	0	0			0	0	Clear	
Fort Craig, New Mexico	25.55	649.2	29.63	752.6	65	18.3	59	NW	2	0.9		0	0			0	0	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	67	19.4	73	NE	6	2.7			10ks		NE	0	0	Cloudy	
Fort Gibson, Indian Ter	29.40	746.7	29.92	760.0	74	23.3	95	NE	3	1.3			10s		NE	0.21	5.3	Cloudy	
Fort Griffin, Texas	28.71	729.2	29.92	760.0	74	23.3	90	Calm	0	0			10s		Calm	3.57	90.7	Cloudy	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.77	730.7	29.83	757.7	74	23.3	90	NW	8	3.6			10s		NW	0.22	5.6	Cloudy	
Galveston, Texas	29.88	758.9	29.92	760.0	83	28.3	79	SE	4	1.8			10ks		E	0	0	Threatening	
Grand Haven, Michigan	29.83	745.0	29.96	761.0	67	19.4	79	E	6	2.7			10s		Calm	0	0	Cloudy	
Indianapolis, Indiana	29.12	739.6	29.84	758.4	71	21.7	80	NE	4	1.8			10s		Calm	0.21	5.3	Cloudy	
Indianola, Texas	29.90	759.4	29.93	760.2	86	30.0	76	SW	1	0.4		2k	1ks	Calm	Calm	0.04	1.0	Fair	
Jacksboro, Texas	28.85	732.8	29.94	760.5	75	23.9	95	Calm	0	0			10s		N	0.52	13.2	Cloudy	
Jacksonville, Florida	30.08	764.0	30.11	764.8	83	28.3	83	SE	3	1.3		2c	0	Calm		0.07	1.8	Clear	
Keokuk, Iowa	29.26	743.2	29.84	757 9	70	21.1	80	E	5	2.2			10s		W	0	0	Cloudy	
Key West, Florida	30.01	762.2	30.04	763.0	85	29.4	76	SE	5	2.2		8c;k	1ks	Calm;SE	Calm	0	0	Fair	
Kittyhawk, North Carolina	30.08	764.0	30.10	764.5	80	26.7	91	W	6	2.7			10s		W	0.24	6.1	Cloudy	
Knoxville, Tennessee	29.05	737.9	30.01	762.2	74	23.3	95	Calm	0	0			10s;fg		SW	0.37	9.4	Cloudy	
La Crosse, Wisconsin	29.18	741.2	29.88	758.9	74	23.3	72	SE	3	1.3			10s		Calm	0.11	2.8	Cloudy	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	65	18.3	78	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.46	748.3	29.70	756.7	78	25.6	91	SE	4	1.8		10k	0	Calm		0.25	6.3	Cloudy	
Lead City, Dakota	24.80	631.4			57	13.9	87	S	1	0.4		0	0			0	0	Clear	
Leavenworth, Kansas	29.03	737.3	29.83	757.7	72	22.2	85	Calm	0	0		5k	0	SW		0	0	Fair	
Los Angeles, California	29.51	749.6	29.84	757.9	61	16.1	86	Calm	0	0			Fog		Calm	0	0	Foggy	
Louisville, Kentucky	29.36	745 7	29.89	759.2	77	25.0	82	S	5	2.2		0	8s		SW	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.86	745.7	30.01	762.2	78	25.6	78	E	2	0.9			10ks		Calm	0.02	0.5	Cloudy	
Marquette, Michigan	29.25	742.9	29.92	760.0	68	20.0	79	S	4	1.8		5k	0	SE		0	0	Fair	
Mason, Texas	28.31	719.1	29.99	761.7	75	23.9	85	Calm	0	0		8cs	0	N		0	0	Fair	
Memphis, Tennessee	29.65	753.1	29.95	760.7	80	26.7	82	S	2	0.9		5ck	2s	SW	SW	0.02	0.5	Cloudy	
Milwaukee, Wisconsin	29.22	742.2	29.91	759.7	72	22.2	80	SE	12	5.4		5c	Haze	SW		0	0	Fair	
Mobile, Alabama	29.90	759.4	29.94	760.5	79	26.1	82	N	4	1.8		2c	8s	Calm	Calm	0.02	0.5	Cloudy	
Montgomery, Alabama	29.71	754.6	29.93	760.2	75	23.9	90	E	3	1.3			10n		Calm	1.24	31.5	Heavy rain	
Morgantown, West Virginia	28.98	736.1	29.98	761.5	71	21.7	80	NE	2	0.9			10s		SW	0.03	0.8	Cloudy	
Mt. Washington, N. H.	23.99	609.3	30.35	770.9	41	5.0	91	NW	11	4.9		8c	0	NW		0	0	Fair	
Nashville, Tennessee	29.45	748.0	29.95	760.7	78	25.6	82	SE	4	1.8			10s		S	0.22	5.6	Cloudy	
New Haven, Connecticut	30.02	762.5	30.13	765.3	72	22.2	71	Calm	0	0		5c	0			0	0	Fair	
New London, Connecticut	30.09	764 3	30.13	765.3	74	23.3	72	Calm	0	0		2cs	Haze	S	Calm	0	0	Fair	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	82	27.8	83	N	4	1.8		2k	0	NE		0.03	0.8	Fair	
Newport, Rhode Island	30.08	764.0	30.13	765.3	69	20.6	85	SW	3	1.3		5c	0			0	0	Fair	
New York, New York	29.95	760.7	30.12	765.0	73	22.8	71	N	2	0.9		2c;hz	Haze	Calm		0	0	Hazy	
Norfolk, Virginia	30.04	763.0	30.09	764.3	80	26.7	87	SW	6	2.7		10k	0	SW		0.02	0.5	Cloudy	
North Platte, Nebraska	27.12	688.8	29.61	752.1	62	16.7	88	SE	2	0.9		0	0			0	0	Clear	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	48	8.9	92	Calm	0	0		0	0			0	0	Clear	
Omaha, Nebraska	28.79	731.3	29.82	757.4	65	18.3	89	NW	6	2.7		0	8s		NW	0.59	15.0	Clearing	
Oswego, New York	29.80	756.9	30.12	765.0	64	17.8	78	S	4	1.8		8c	0	NW		0	0	Fair	
Pembina, Dakota	29.00	736.6	29.80	756.9	58	14.4	94	SE	8	3.6			5ks	NW	NW	0	0	Threatening	
Philadelphia, Pennsylvania	30.06	763.5	30.11	764.8	75	23.9	64	SW	3	1.3		5c;ck	Sm'e	Calm;W	Calm	0	0	Fair	
Phœnix, Arizona	28.80	731.5			91	32.8	34	W			1	0	0			0	0	Clear	
Pike's Peak, Colorado	18.08	459.2	30.29	769.4	37	2.8	63	NW	12	5.4		0	0			0.02	0.5	Clear	
Pioche, Nevada	24.14	613.1	29.91	759.7	64	17.8	8	S	4	1.8		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.19	741.4	29.98	761.5	66	18.9	74	E	4	1.8			10s		N	0	0	Cloudy	
Port Huron, Michigan	29.38	746.2	30.03	762.7	63	17.2	72	Calm	0	0			10ks		Calm	0	0	Cloudy	
Portland, Maine	30.08	764.0	30.13	765.3	67	19.4	60	NW	3	1.3		2k	Haze	W		0	0	Fair	
Portland, Oregon	30.11	764.8	30.21	767.3	54	12.2	87	Calm	0	0		0	0			0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.83	630.7	30.22	767.6	59	15.0	4	Calm			0	0	0			0	0	Clear	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	84	28.9	79	SE	5	2.2		2cs	2ks	Calm	SE	0	0	Fair	
Red Bluff, California	29.49	749.0	29.83	757.7	70	24.4	27	NW	8	3.6		0	Haze		Calm	0	0	Clear	
Rochester, New York	29.48	748.8	30.07	763.8	65	18.3	73	SW	6	2.7		2c	0	Calm		0	0	Fair	
Roseburg, Oregon	29.60	751.8	30.17	766.3	50	10.0	93	Calm	0	0		0	0			0	0	Clear	
Sacramento, California	29.75	755.6	29.84	757.9	62	16.7	72	Calm	0	0		0	0			0	0	Clear	
St. Louis, Missouri	29.34	745.2	29.90	759.4	69	20.6	85	NE	8	3.6			10s		Calm	0.62	15.7	Cloudy	
St. Marks, Florida	30.01	762.2	30.03	762.7	82	27.8	83	S	16	7.2		8k	0	S		0.65	16.5	Fair	
St. Paul, Minnesota	29.03	737.3	29.83	757.7	64	17.8	83	SE	13	5.8			10n		SW	0.67	17.0	Light rain	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	67	19.4	33	S	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.22	742.2	29.78	756.4	77	25.0	95	Calm	0	0		5c	0	Calm		0	0	Fair	
San Diego, California	29.82	757.4	29.89	759.2	65	18.3	84	N	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.38	746.2	30.02	762.5	69	20.6	75	SE	4	1.8			10s		Calm	0	0	Cloudy	
Sandy Hook, New Jersey	30.10	764.5	30.13	765.3	72	22.2	76	E	1	0.4		8c	Haze	N	Calm	0	0	Cloudy	
San Francisco, California	29.81	757.2	29.87	758.7	52	11.1	80	SW	2	0.9		0	Fog		Calm	0	0	Fair	
Santa Fé, New Mexico	23.42	594.9	29.96	761.0	60	15.6	44	Calm	0	0		0	0			0	0	Clear	
Savannah, Georgia	30.02	762.5	30.11	764 8	87	30.6	80	SW	3	1.3		10cs	0	Calm		0	0	Cloudy	
Shreveport, Louisiana	29.74	755.4	29.94	760.5	81	27.2	87	S	1	0.4		Haze	0	Calm		0.42	10.7	Clear	
Silver City, New Mexico	24.38	619.2	30.40	772.1	59	15.0	76	S	3	1.3		0	0			0	0	Clear	
Smithville, North Carolina	30.11	764.8	30.14	765.5	83	27.8	83	W	12	5.4		5cs	5ks	Calm	W	0	0	Cloudy	
Springfield, Massachusetts	29.94	760.5	30.07	763.8	71	21.7	62	N	4	1.8		5c	0	W		0	0	Fair	
Stockton, Texas	26.91	683.5	29.91	759.7	66	18 9	68	N	3	1.3			10s;fg		Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.10	764.5	30.15	765.8	62	16.7	77	N	4	1.8		1k	0	NW		0	0	Clear	
Toledo, Ohio	29.32	744.7	29.97	761.2	70	21.1	80	NE	6	2.7			10s		Calm	0	0	Cloudy	
Tucson, Arizona	27.31	693.7	29.86	758.4	87	30.6	40	N			1	0	0			0	0	Clear	
Tybee Island, Georgia	30.06	763.5	30.09	764.3	82	27.8	91	S	4	1.8		5cs	5ks	N	S	0.84	21.3	Cloudy	
Umatilla, Oregon	29.66	753.4			64	17.8	68	W	8	3.6		0	0			0	0	Clear	
Vicksburg, Mississippi	29.78	755.1	29 98	761.5	76	24.4	95	Calm	0	0		0	0			1.84	46.7	Clear	
Virginia City, Montana	24.31	617.5	29.79	756.7	64	17.8	68	SE	8	3.6		0	0			0	0	Clear	
Visalia, California	29.48	748.8	29.84	757.9	63	17.2	77	W	2	0.9		0	0			0	0	Clear	
Washington, D. C.	29.98	761.5	30.09	764.3	71	21.7	90	NE	3	1.3			10krs		SE	Inap.	Inap.	Cloudy	
Wickenburg, Arizona					72	22.2	67	NE			1	0	0			0	0	Clear	
Wilmington, N. Carolina	30.04	763.0	30.12	765.0	80	26.7	91	SW	4	1.8		8k	2s	SW	Calm	0.11	2.8	Cloudy	
Winnemucca, Nevada	25.71	653.0	30.07	763.8	58	14.4	32	Calm	0	0		0	0			0	0	Clear	
Wood's Holl, Mass	30.08	764 0	30.13	765.3	72	22.2	80	S	2	0.9		5ck	0	NW		0	0	Fair	
Yankton, Dakota	28.65	727.7	29.90	759.4	63	17.2	89	NW	2	0.9		0	0			0.12	3.0	Clear	
Yuma, Arizona	29.54	750.3	29.70	754.4	77	25.0	69	NE	2	0.9		0	0			0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska																			
York Factory, B. A.	29.58	751.3	29.63	752.6	53.5	11.9	87	SE	12	5.4		4k	4s	W	S	0.50	12.7	Threatening	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	30.00	762.0	30.02	762.5	84	28.9	75	SE	2.4	1.1		4cs	0	SW		0	0	Fair	Chas. Hasselbrink.
St. Thomas																			James Gall.
Kingston, Jamaica, W. I.	30.12	765.0	30.13	765.3	80	26.7	87	Calm	0	0		2c	0	Calm		0	0		F. M. Everett.
Navassa, W. I.	29.90	759.4	29.98	761.5	84	28.9		E	11.2	5.0		0	0			0	0	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.03	762.7	30.03	762.7	81	27.2	87	E			2		8ks			0.260	6.60	Cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.																			Thomas Herran.
Medellin, Colombia, S. A.	25.21	640.3			69.8	21.0	76	SE	10	4.5			10krs			0	0		

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters: Boise City, 5,469 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,688 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,288 ft., or 1,915.6 m.; North Platte, 2,848 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,558 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,898 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,323 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca. 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.89	759.2	59	15.0	57	13.9	97	WSW	12	5.4	.....	.....	8	.....	SW	.....	.....	.....	.....	Clearing.....	
Navy Yard, Pensacola, Fla.	30.08	764.0	81	27.2	81	27.2	87	W	4	1.8	.....	.....	8	.....	W	0.35	8.9	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.07	763.8	71	21.7	65	18.3	89	SW	1	0.4	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.88*	758.9*	82	27.8	82	27.8	79	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Apia, Samoan Islands...	30.03	762.7	79	26 1	78	25.6	100	ESE	.....	.....	3	.....	5	.....	S;E	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France.....	30.02‡	762.5‡	.....	.....	70	21.1	90	SSW	.....	.....	0-1	.....	7	.....	SSW	.....	.....	.....	.....	Hazy	
Ashuelot. Nagasaki, Japan.....	30.07	763.8	85	29.4	84	28.9	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Alaska, S. 21° 00', W. 40° 23'.....	30.42	772.7	72	22.2	71	21.7	71	S	.....	.....	3	.....	3	.....	S	0.12	3.0	Long	S	D. clouds.....	
Canonicus, New Orleans, La.....	29.99	761.7	56	13.3	82	27.8	83	W	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Colorado. New York, N. Y.....	30.12‡	765.0‡	.....	.....	73	22.8	76	ENE	3	1.3	....	.....	8	.....	ENE	0	0	.....	.....	Foggy	
Constitution, Havre, France.....	29.98‡	761.5‡	.....	.....	67	19.4	95	SSW	.....	.....	2	.....	7	.....	Calm	.....	.....	.....	.....	Pleasant.....	
Despatch, Prince's Islands, Sea of Marmora	29.83‡	757.7‡	.....	.....	75	23.9	72	NW	.....	.....	2	.....	2	.....	N	.....	.....	Smooth	.....	Fair	
Franklin, Norfolk, Va.....	30.22	767.6	79	26.1	77	25.0	95	SSW	4	1.8	.....	.....	10	.....	SSW	0	0	.....	.....	Cloudy.....	
Gettysburg Villefranche, France.....	29.83‡	757.7‡	.....	.....	76	24.4	??	ESE	.....	.....	2	.....	5	.....	Calm	0	0	None	.....	Fair	
Hartford, Rio de Janeiro, Brazil ...	30.29	769.4	.....	.....	70	21.1	80	NW	2.0	0.9	.....	.....	10	.....	NW	0.097	2.46	.....	.....	Cloudy.....	
Marion, Villefranche, France	29.94	760.5	79	26.1	76	24.4	77	ESE	.....	.....	2	.....	2	.....	ESE	0	0	.....	.....	Fair.....	
Michigan, Erie, Pa...	29.56	750.8	67	19.4	67	19.4	79	NE	.....	.....	1	.....	10	.....	NE	.....	.....	.....	... .	Cloudy.....	
Monocacy. Yokohama, Japan	29.82‡	757.4‡	.....	.....	84	28.9	70	S	.....	.....	1-2	.....	2	.....	S	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.....	30.34†	770.6†	.....	.....	81	27.2	87	S	9	4.0	.....	.....	8	.....	SSW	0.002	0.05	.....	.....	Cloudy.	
Onward, Callao, Peru.....	30.12†	765.0†	.....	.....	59	15.0	94	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China.....	29.79	756.7	80	26.7	76	24.4	95	SE	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Cloudy.....	
Pensacola, Mare Island, California	29.95	760.7	62	16.7	55	12.8	100	SW	1	0.4	.....	.....	2	.....	SW	.....	.....	.....	.....	Clear.	
Plymouth, New York, N. Y..... ...	30.13‡	765.3‡	.....	.....	74	23.3	76	NNW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Hazy.....	
Ranger. Hong-Kong, China.....	29.91*	759.7*	.....	.....	82	27.8	83	ENE	.....	.....	1	.....	9	.....	Calm	.....	.....	.....	.....	D. clouds.....	
Rio Bravo, Brownsville, Texas.....	29.89	759.2	80	26.7	80	26.7	96	ESE	.....	.....	1	.....	4	.....	Calm	.....	.....	.....	.....	Clear	
Santee, Annapolis, Md...	30.08‡	764.0‡	.....	.....	75	23.9	86	SE	.....	.....	3	.....	10	....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.06	763.5	74	23.3	73	22.8	76	NE	2	0.9	.....	.....	2	.. ..	W	0	0	.....	.....	Fair	
Supply, Havre, France.....	30.07	763.8	68	20.0	71	21.7	66	SW	.....	.....	0-1	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass.....	30.14‡	765.5‡	.....	.....	70	21.1	100	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Lisbon, Portugal.....	29.79‡	756.7‡	.....	.....	74	23.3	63	NNE	.....	.....	3-4	.....	0	.....	.....	0	0	.....	.....	Clear.	
Tuscarora, Acapulco, Mexico.....	29.72	754.9	79	26.1	79	26.1	86	NE	.....	.....	0-1	.....	10	.....	NE	1.	25.	.....	.....	Cloudy.....	
Vandalia, N. 34° 04', E. 27° 40'.....	29.77‡	756.1‡	.....	.....	80	26.7	78	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	Long	W	Clear.....	
Wabash, Boston, Mass.....	30.11‡	764.8‡	.....	.....	68	20.0	79	NW	1	0.4	.....	.....	5	.....	NW	0	0	.....	.....	Fair.....	
Wyoming, N. 44° 20', W. 52° 49'.....	30.09†	764.3†	.....	.....	58	14.4	??	NNW	.....	.....	3	.....	2	....	.....	.....	.....	Long smooth	W	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.			Force.	Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.			Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Yokohoma, Japan		29.98*	760.2*	80	26.7	100	SSW			2		3		S	0	Light	SSW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.15*	765.8*				Calm			0								Fair	Capt. Seabury.
S. S. City of Peking, N. 36° 28', W. 165° 59'		30.40†	772.1†	72	22.2	90	SSW	12	5.4			2		SSW	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 24° 00', W. 153° 21'																			Capt. Fuller.
S. S. Zelandia		30.48‡	774.2‡	77	25.0	95	ENE			7		5		ENE	0	Rough	ENE	Fine	Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic, Off Holyhead		30.15†	765.8†	60	15.6	99	NNE			3		2		NE	0	None		D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 40° 26', W. 57° 46'		30.08	764.0	76.0	24.4	95	S			1		10		S			W	Rainy	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.34*	770.6*	79	26.1	66	SW			1		3		SW	0			Clear.	Captain Sargent.
S. S. Ohio, Liverpool		30.157	765.87	72	22.2	85	W			2		6		W	0			Clear.	Captain Morrison. Captain Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Roudle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence																			O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 30, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:20 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			29.96	761.0	71.6	22.0	85	N			1		2			0	0	Fair	Dr. Olive.
Nemours			29.89	759.3	85.8	29.6	70	E			3		1			0	0	Very fair	Michel.
Algiers			29.84	757.9	83.8	28.8	72	NNE			1		0			Inap.	Inap.	Clear	Tourillere.
La Calle			29.93	760.1	79.2	26.2	82	ENE			3		2			0	0	Fair	Foufrede.
Tunis			29.93	760.1	93.2	34.0		E			4		0			0	0	Clear	Jacques.
Sfax			30.03	762.7	87.8	31.0		S			1		0			0	0	Clear	Gau.
Saida			29.99	761.8	94.5	34.7	24	N			2		2			0.028	0.7	Fair	Herbin.
Tebessa			29.99	761.7	96.6	35.9	11	NNW			3		6			0	0	Cloudy	Watrin.
Geriville			30.03	762.8	94.1	34.5	26	SE			7		4			0	0	Cloudy	Brugniaux.
Laghouat			30.08	763.9	90.4	35.8	25	E			1		0			0	0	Clear	Bertrand.
Biskra			29.99	761.8	101.8	38.8		E			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.35	745.5	29.87	758.8	75.7	24.3	67	NE			4		8			0.445	11.3	Raining	Prof. Ivan Stossi
Cracow	29.14	740.2	29.87	758.6	74.8	23.8	46	W			1		4			0	0		Prof. Dr. Karlinski.
Eperies	28.99	736.3	29.82	757.5	77.0	25.0	47	Calm			0		10k;s			0	0		Julius Mikolik.
Gratz	28.71	729.2	29.93	760.1	65.8	18.8	82	NE			3		10			0.197	5.00		Andreas Rospini.
Hermannstadt	28.46	722.9	29.82	757.4	75.2	24.0	57	N			1		6			0.925	23.50		Prof. Reissenberg
Kremsmünster	28.53	724.6	29.82	757.5	66.6	19.2	75	W			3		10			0.217	5.5		Prof. C. Wagner
Lemberg	28.38	783.6	29.84	757.8	70.5	21.4	60	NE			1		5			0	0		Lr. T. Stanecki.
Pola	29.78	756.3	29.88	759.0	80.1	26.7	70	SE			2		10ks			0	0		I.R.Hydrographic Office
Szathmar	29.43	747.6	29.88	758.9	75.2	24.0	60	N			4		6			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.81	757.1	29.91	759.7	78.4	25.8	68	NW			1		1			2.043	51.9	Thunder-storm	P. Busin.
Vienna	29.24	742.6	29.93	760.3	68.9	20.5	68	SW			1		9			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 7:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.56	725.4	30.04	762.9	64.9	18.3	68	SW			2		10			0.335	8.5		Prof. M. Passau.
Brussels	29.82	757.3	30.02	762.4	62.1	16.7	76	WNW			5		10		NSW;NW	0.164	3.90	Raining	Royal Observatory
Furnes	30.00	764.3	30.11	764.6	65.8	18.8	70	NW			5		6			0	0		M. E. de Cae.
Maeseyck	29.87	758.7	30.00	761.9	61.3	16.3	77	NW			2		10			0.063	1.6		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

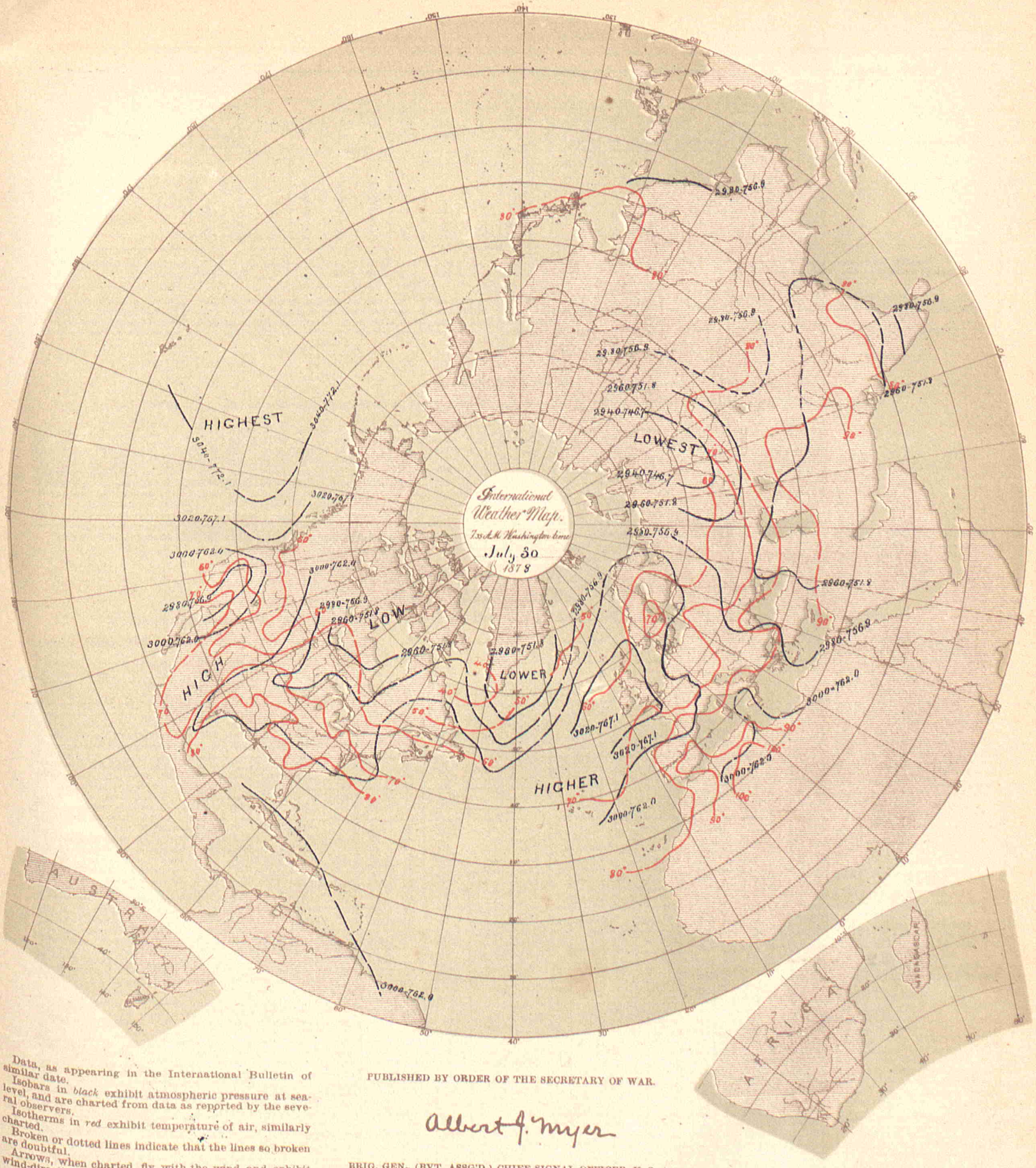
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.22	767.6	30.32	770.1	56.0	13.3	.....	ENE	14	6.3	.....	.....	7	.....	.....	0	0	D. clouds.....	W. Boswell.
Ardrossan	30.25	768.3	30.26	768.6	65	18.3	.....	S	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	30.30	769.6	64.0	17.8	.....	NE	3	1.3	.....	.....	0	.....	.....	.....	.....	Blue sky.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.25	768.3	64.8	18.2	.....	NW	6	2.7	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.28	769.1	69.0	20.6	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.86	758.4	30.25	768.3	62.4	16.9	.....	N	.....	.....	3	.....	6	.....	.....	0.02	0.5	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	83.5	28.6	.....	SE	.....	.....	3	.....	4?	.....	.....	.....	.....	Overcast?...	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.18	766.6	64.0	17.8	.....	NNW	.....	.....	3	.....	7	.....	.....	.....	.....	Showery	H. Todd. [H.C.
Cardington	.....	.....	30.20	767.1	67.0	19.4	.....	N	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast....	John McLaren.
Chatham, School M. E.	30.01	762.2	30.14	765.5	65.2	18.4	.....	N	.....	.....	4	.....	9	.....	.....	.....	.....	Showery....	Lt. W. G. Morris, R. E.
Dartmoor	28.74	730.0	30.16	766.1	68.0	20.0	.....	E	.....	.....	3	.....	4	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	30.26	768.6	30.29	769.4	63	17.2	.....	ESE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	30.142	765.57	30.137	765.37	66	18.9	.....	N	.....	.....	3	.....	6	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	30.23	767.8	70.7	21.5	.....	SE	3.0	1.3	.....	.....	5	.....	.....	.....	.....	D. clouds..	Thomas Mackereth.
Falmouth, Observatory	29.99	761 7	30.22	767.6	65.8	18.8	.....	ESE	.....	.....	2	.....	1	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.29	693.2	29 59	751.6	82.0	27.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.83	757.7	30.06	763.5	80	26.7	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	30.24	768.1	71	21.7	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.78	756.4	29.84	757.9	76.3	24.6	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	Gloomy.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.08	764.0	30.28	769.1	64.4	18.0	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.13	765.3	30.18	766.8	62	16.7	.....	N	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	30.09	762.0	30.17	766.3	64.3	17.9	.....	N	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy.
Guernsey	29.97	761.2	30.18	766.6	65	18.3	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.21	767.3	70	21.1	.....	E	.....	.....	2	.....	2c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.23	767.8	30.28	769.1	60	15.6	.....	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.92	760.0	30.20	767.1	68.5	20.3	.....	NNE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	.....	.....	30.18	766.6	66.0	18.9	.....	N	15	6.7	.....	.....	9k	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	30.27	768.8	30.30	769.6	63	17.2	.....	E	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	George Mitchell.
Leicester, Museum	.....	.....	30.21	767.3	66.1	18.9	.....	NE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.91	759.7	29.98	761.5	83.6	28.7	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Sgt. Hewitt A. H. C.
Nairn	30.19	766.8	30.28	769.1	63	17.2	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	85.0	29.4	.....	SE	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	30.06	763.5	30.25	768.3	65.4	18.6	.....	N	.....	.....	3	.....	7k	.....	N	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.70	754.4	30.21	767.3	63.2	17.3	.....	NNE	.....	.....	3-4	.....	5	.....	.....	.....	.....	Hazy.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.20	767.1	65	18.3	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	H.E. Bellamy.
Plymouth	30.12	765.0	30.19	766.8	71.6	22.1	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Roche's Point	30.21	767.3	30.25	768.8	67	19.4	.....	ESE	.....	.....	3	.....	2	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	30.07	763.8	30.22	767.6	68	20.0	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.32	770.1	57.9	14.4	.....	WNW	7	3.1	.....	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.82	757.4	87.0	30.6	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	29.97	761.2	30.21	767.3	64.0	17.8	.....	NNE	.....	.....	1	.....	6	.....	.....	0	0	D. clouds.....	W. F. Cooper.
Silloth Rectory	30.25	768.3	30.28	769.1	69.4	20.8	51	SE	.....	.....	1	.....	1	.....	.....	0	0	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.86	758.4	30.26	768.6	65.5	18.6	.....	N	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	30.21	767.3	30.24	768.1	60	15.6	.....	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	29.98	761.5	30.19	766.8	69.2	20.7	.....	N	.....	.....	2-3	.....	7	.....	.....	.....	.....	D. clouds....	Rev. O. H. Griffith, F. M. S.
Thurso	.....	.....	30.30	769.6	60	15.6	.....	NNE	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro, Royal Institution	.....	.....	30.34	770.6	76	24.4	.....	SE	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.26	768.6	67.0	19.4	.....	N	11	4.9	.....	.....	6	.....	.....	.....	.....	D. clouds....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	30.24	768.1	53.0	11.7	86	S	.....	.....	2	.....	7kn	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.17	766.3	72.4	22.4	54	ESE	9.5	4.2	.....	1	5	.....	ESE	0	0	Fine; cloudy	C. Meldrum.
Melbourne, Observatory	30.28	769.1	30.37	771.4	47.7	8.7	74	SSW	1	0.4	.....	.....	10	.....	.....	0	0	Dull.....	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Young, Asst.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 61° 10′ W. 49° 0′	.....	.....	29.67	751.1	35	1.7	.....	NW	.....	.....	4	.....	9	.....	.....	4	.....	Foggy	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 45° 10′, W. 53° 0′	.....	.....	30.16	766.1	60	15.6	.....	Calm	.....	.....	0	.....	6	.....	.....	2	.....	D. clouds.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 230 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.23	666.2	.....	.....	68.9	20.5	86	SE	.....	.....	2	3c	2ks	.....	E	0.5	13.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.95	760.6	29.59	761.8	65.5	18.6	74	E	.....	.....	2	.....	7	.....	.....	.....	.....	.....	
Fanöe	30.06	763.4	30.08	763.9	67.8	19.9	80	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.57	751.0	29.61	752.1	41.9	5.5	80	NW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	
Stykkisholm, (Iceland)	29.61	752.1	29.65	753.2	54.7	12.6	80	S	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	30.16	766.0	30.19	766.9	57.4	14.1	77	SW	.....	.....	2	.....	7	.....	.....	.....	.....	.....	
Yestervig	29.88	759.0	30.05	763.3	67.6	19.8	68	NE	.....	.....	4	.....	4	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29 65	753.2	30.21	767.2	69.8	21	55	NE	.....	.....	2	.....	5	.....	NE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	29.98	761.4	30.09	764.2	72.0	22.2	67	NW	.....	.....	3	.....	2	.....	S	0	0	Slightly cl'dy	Bonvallet, Director.
Avignon, Normal School	29.90	759.4	29.98	761.4	86.4	30.2	45	NE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.55	750.5	30.10	764.6	65.7	18.7	49	NE	.....	.....	2	.....	5kn	.....	.....	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	29.85	758.3	30.13	765.4	68.7	20.4	46	NNE	.....	.....	3	.....	5	.....	NNE	0	0	Cloudy	Normal School.
Besançon	29.22	742.3	30.09	764.3	68.4	20.2	55	N	.....	.....	2	.....	10	.....	NW	0	0	Covered	Normal School.
Bourg-en-Bresse	29.20	741.7	30.13	765.4	76.1	24.5	50	N	.....	.....	4	.....	5clk	.....	W	0	0	Cloudy	Normal School.
Bourges, Normal School	29.51	749.5	30.11	764.7	69.4	20.8	58	NNE	.....	.....	4	.....	k	.....	NNE	0	0	.....	A. Wagner, Director.
Brest, Naval Observatory	29.87	758.7	30.11	764.9	73.8	23.2	53	NNE	.....	.....	2	.....	4	.....	NNE	0	0	.....	The Staff.
Carcassonne, Normal School	29.54	750.4	29.93	760.2	89.6	32	37	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.53	750.1	30.08	764.1	68.7	20.4	80	ENE	.....	.....	3	.....	7	.....	SE	0	0	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29 77	756.2	30.08	764.1	68.9	20.5	54	N	.....	.....	4	.....	5k	.....	N	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.71	729.1	30.01	762.2	74.8	23.8	42	N	.....	.....	2	.....	8	.....	SW	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.22	742.2	30.08	764.0	64.0	17.8	63	NW	.....	.....	2	.....	5	.....	SE	0	0	Cloudy	Fr. Coulet, Director.
Commune de Gréasque*	28.91	734.2	30.05	763.2	83.3	28.5	43	W	.....	.....	2	.....	2	.....	SW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.88	759.0	30.09	764.3	77.0	25.0	40	ENE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Mouillot, Director.
Le Mans, Normal School	29.84	758.0	30.15	765.7	68.0	20	46	N	.....	.....	4	.....	8	.....	N	0	0	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.14	740.2	30.03	762.7	71.8	22.1	46	N	.....	.....	3	.....	10	.....	N	0	0	Covered	Baudry, Director.
Lorient, Naval Observatory	30.04	763.0	30.14	765.5	73.4	23.0	45	NNE	.....	.....	2	.....	2	.....	NNE	0	0	¼ covered	T. Carré, Director.
Mâcon, Normal School	29.39	744.2	29.97	761.1	72.1	22.3	73	NE	.....	.....	6	.....	5	.....	NE	0	0	Cloudy	M. Galzin, Director.
Mirecourt	29.04	737.5	30.06	763.4	63.9	17.7	55	NW	.....	.....	4	.....	2	.....	SE	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.74	755.4	29.93	760.2	95.4	35.2	33	S	.....	.....	2	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Orleans, Normal School	29.75	755.6	30.12	765.0	76.1	24.5	48	N	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	29.88	758.9	30.11	764.8	67.8	19.9	48	N	.....	.....	1	.....	8	.....	N	0	0	Very cloudy	National Observatory.
Privas, Normal School	28.91	734.3	29.93	760.1	77.9	25.5	50	N	.....	.....	2	.....	2	.....	N	0	0	Slightly cov.	M. Cantier.
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.04	762.9	30.07	763.7	80.2	26.8	31	NE	.....	.....	4	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.07	763.6	30.15	765.7	71.2	21.8	45	N	.....	.....	3	.....	2	.....	N	0	0	Slightly cl'dy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.07	738.3	30.10	764.4	82.4	28	63	SE	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.38	746.3	30.07	763.6	79.3	26.3	59	NNE	.....	.....	4	.....	2	.....	NW	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.94	760.5	84.2	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.19	81.	.....	L'Abbé Marchès.
Lyons	.....	.....	30.00	762.0	72.5	24.0	48	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.87	758.8	79.9	26.6	66	W	.....	.....	1	.....	5	.....	.....	0.004	0.10	Cloudy	The Staff.
Mont-Louis	24.92	633.0	30.24	768.0	71.2	21.8	56	ESE	16.8	7.50	.....	.....	0	.....	.....	0.122	3.1	.....	M. Cave.
Nice	.....	.....	29.97	761.1	77.7	25.4	78	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.84	757.8	30.11	764.8	68.0	20.0	59	NNW	.....	.....	3	.....	7	.....	WNW	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	29.99	761.8	82.6	28.1	65	E	5.6	2.50	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.71	576.9	.....	.....	64.4	18.0	.....	S	.....	.....	1	.....	2	.....	.....	0.532	13.5	Clear	Gen'l de Nansouty
Saint Maur, (near Paris)	29.95	760.7	30.11	764.9	68.0	20.0	51	N	.....	.....	2	.....	6	.....	N	0	0	.....	E. Renou.
Toulouse, Observatory	29.30	744.1	30.02	762.5	84.7	29.3	39	SE	.....	.....	1	.....	1	.....	.....	0	0	.....	The Staff.
Tours	29.92	759.9	30.11	764.9	72.1	22.3	50	NNE	.....	.....	1	.....	10	.....	N	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.13	765 3	70.5	21.4	45	NE	.....	.....	3	.....	9	.....	.....	0	0	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.69	754.1	29.71	754.7	79.7	26.5	90	ESE	6.5	2.9	.....	.....	1k	.....	.....	0	0	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.10	739.1	29.94	760.5	68.0	20.0	60	W	.....	.....	3	.....	3	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.81	757.1	29.98	761.4	62.2	16.8	69	S	.....	.....	1	.....	8	.....	.....	0.555	14.1	Raining	Prof. Arndt.
Breslau	29.43	747.5	29.96	761.0	69.1	20.6	60	NNE	.....	.....	1	.....	4	.....	.....	Inap.	Inap.	.....	Royal University Obs'y
Carlsruhe	29.58	751.2	29.99	761.7	70.2	21.2	46	W	.....	.....	4	.....	7	.....	.....	0	0	.....	Albert Senz.
Cassel	29.39	746.4	29.99	761.8	64.9	18.3	57	NW	.....	.....	1	.....	7	W	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.79	756.6	29.95	760.7	63.3	17.4	84	N	.....	.....	3	.....	9n	.....	.....	.....	.....	Raining	Director Lose.
Emden	29.90	759.4	29.94	760.4	67.8	19.9	75	NE	.....	.....	1.5	.....	2	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.69	754.1	30.05	763.3	63.0	17.2	.....	NW	.....	.....	2	.....	9	.....	.....	0.028	0.7	.....	Physical Society.
Friedrichshafen	28.58	725.9	29.97	761.3	68.7	20.4	66	SW	.....	.....	.....	.....	10	W	.....	0.220	5.6	.....	M. Wilhelm.
Hamburg	29.89	759.2	29.96	761.0	64.4	18.0	66	NE	.....	.....	1	.....	10ks	.....	.....	0.177	4.5	Cloudy	Captain F. Hegemann.
Kiel	29.96	760.9	29.97	761.3	63.9	17.7	77	NNE	.....	.....	1	.....	7	.....	.....	0.060	1.53	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.82	757.4	29.90	759.4	72.7	22.6	63	NW	.....	.....	3	.....	6	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.93	760.3	65.8	18.8	.....	N	.....	.....	4	.....	3	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.56	750.9	29.97	761.3	67.6	19.8	51	WNW	.....	.....	2	.....	9	W	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.88	758.9	29.93	760.1	71.8	22.1	52	WNW	.....	.....	2	.....	3s	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.93	760.2	29.95	760.6	66.6	19.2	79	NNE	.....	.....	2	.....	7	.....	.....	0	0	.....	A. Lothes.
Posen	29.72	754.8	30.00	761.9	67.1	19.5	64	NW	.....	.....	6	.....	9	.....	.....	0.004	0.1	.....	Dr. Magener.
Strassburg (in Alsace)	29.51	749.5	30.01	763.1	68.2	20.1	46	W	.....	.....	4	.....	4	W	.....	0	0	.....	Astronomical Observatory.
Stuttgart	29.08	738.5	29.99	761.7	68.0	20.0	43	N	.....	.....	3	.....	4	W	.....	0.083	2.1	.....	Prof. Schoder.
Treves, (Trier)	29.38	746.2	29.90	759.4	66.0	18.9	60	W	.....	.....	5	.....	6	.....	.....	0.014	0.36	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.50	723.8	29.94	760.5	65.7	18.7	51	NNW	2	1	.....	.....	Sck	.....	W	0	0	.....	Dr. Von Bebber.
Wustrow, Naval School	29.97	761.3	30.01	762.3	63.7	17.6	86	NNE	.....	.....	1	.....	10	.....	.....	0.327	8.3	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.49	749.1	29.86	758.5	86.7	30.4	.....	SW	.....	.....	2.0	.....	k	.....	.....	.....	.....	.....	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.42	747.1	29.46	748.4	81.6	27.6	93	NNE	14?	6.3?	.....	10	.....	.....	.....	4.26	108.2	Thunder-storm	
Deesa	29.01	736.7	29.48	748.7	82.0	27.8	87	S	.....	.....	.....	9	.....	SSW	0.10	2.5	D. clouds		
Bombay	29.64	752.9	29.68	753.9	79.3	26.3	91	WSW	27	12.1	.....	10	.....	SW	1.36	34.5	Raining		
Poona	27.69	703.2	29.69	754.2	74.5	23.6	84	W	.....	.....	.....	10	.....	W	0.79	20.1	Threatening		
Lahore	28.76	730.5	29.49	749.0	84.0	28.9	73	NE	5.5	2.5	.....	6	.....	.....	0.36	9.1	.....		
Belgaum	27.26	692.3	29.80	757.0	72.7	22.6	89	W	13	5.8	.....	7	W	W	0.28	7.1	Showery		
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.60	726.5	29.48	748.8	85.8	29.9	70	SE	13.0	5.8	.....	8	.....	.....	0	0	Gloomy		
Agra	28.31	734.4	29.47	748.4	84.7	29.3	79	SE	9	4.0	.....	.....	.....	E	0	0	.....		
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.55	725.3	29.58	751.4	82.6	28.1	78	W	6.6	3.0	.....	10	.....	E	0.01	0.3	Drizzling		
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	29.16	740.5	29.52	749.8	85.2	29.6	83	N	5	2.2	.....	8	.....	.....	0.56	14.2	D. clouds		
Allahabad	29.21	742.0	29.52	749.7	86.6	30.3	76	Calm	1.9	0.8	.....	9	.....	.....	0.99	25.2	D. clouds		
Patna	29.37	746.0	29.55	750.6	82.5	28.1	88	E	0.8	0.4	.....	10	F	E	0.42	10.7	Overcast		
Hazaribagh	27.56	700.0	29.55	750.7	77.8	25.4	82	ENE	3.8	1.7	.....	10	.....	E	0.31	7.9	Thunder-storm		
Cuttack	29.46	748.3	29.54	750.4	84.0	28.9	79	SSW	1.3	0.6	.....	7	.....	.....	0.21	5.3	D. clouds		
Calcutta (Alipore)	29.53	750.0	29.55	750.6	81.7	27.6	89	SE	.....	.....	.....	7	SE	SE	0	0	D. clouds		
Goalpara	29.21	742.0	29.60	751.8	82.8	28.2	79	ESE	2.7	1.2	.....	9	W	.....	0	0	D. clouds		
Chittagong	29.53	750.0	29.62	752.3	83.9	28.8	87	S	3.8	1.7	.....	9	.....	.....	0	0	Gloomy		
Sibsagar	29.32	744.7	29.65	753.1	84.4	29.1	81	NW	2.2	1.0	.....	10	.....	.....	0.12	3.0	D. clouds		
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.20	716.2	29.55	750.6	79.5	26.4	85	NW	3.4	1.5	.....	10	.....	.....	0.21	5.3	Overcast		
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.52	749.7	29.91	759.7	76.8	24.9	52	Calm	0	0	.....	.....	9	.....	.....	0.189	4.8	.....	Prof. Giovanni Clodig.
Padua	29.79	756.6	29.89	759.3	79.0	26.1	58	SE	3.8	1.7	.....	.....	3	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.58	751.3	29.88	758.9	81.1	27.3	71	S	3.8	1.7	.....	.....	3	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.59	726.1	29.84	758.0	82.0	27.8	51	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moncalieri	29.00	736.7	29.87	758.7	79.2	26.2	47	NE	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. Schiaparelli.
Mondovi	28.03	711.9	29.85	758.3	76.3	24.6	58	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. P. F. Denza.
Porto Maurizio	29.74	755.4	29.95	760.8	78.1	25.6	71	S	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.76	756.0	29.93	760.1	77.7	25.4	66	SW	.....	.....	2	.....	6	SE	.....	0	0	.....	Prof. L. Vassallo.
Parma	29.59	751.6	29.89	759.3	78.3	25.7	45	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.67	753.7	29.92	759.9	84.6	29.2	47	W	.....	.....	2	.....	10	SW	.....	0	0	.....	Prof. P. Pigorini.
Leghorn	29.84	757.8	29.92	759.9	79.2	26.2	76	SW	4.9	2.2	.....	.....	10	.....	.....	0	0	.....	Cav. F. Meucci.
Pesaro	29.86	758.4	29.91	759.6	78.8	26.0	60	E	.....	.....	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Urbino	28.41	721.5	29.90	759.4	79.9	26.6	46	SW	.....	.....	1	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Serpieri.
Rome	29.81	757.1	29.98	761.4	83.3	28.5	49	S	11.4	5.3	.....	.....	1	.....	.....	0	0	.....	Avv. P. Ponticelli.
Naples, O. U.	29.81	757.1	30.00	762.0	81.9	27.7	58	WSW	.....	.....	4	.....	3	NW	.....	0	0	.....	Prof. P. G. S. Ferrari.
Lecce	.....	.....	.....	.....	81.0	27.2	39	NNW	7.4	3.3	.....	.....	2	.....	.....	0.433	11.0	.....	Prof. L. Palmieri.
Cagliari	29.75	755.7	29.94	760.4	80.8	27.1	63	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.70	739.0	29.94	760.4	83.5	28.6	64	SW	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.75	755.7	30.00	761.9	80.4	26.9	41	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Syracuse	29.91	759.7	29.98	761.6	83.3	28.5	48	SE	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. G. Cacciatore.
Sub-Series.																			
Naples, S. R.	29.47	748.5	30.02	762.6	82.0	27.8	54	SW	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. V. Giuliano.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.74	755.4	29.93	760.2	80.3	26.8	82	S	2.4	1.1	.....	.....	0	.....	.....	0	0	Clear	.....
Tokei (Yeddo) Observatory	29.68	753.9	29.74	755.4	79.5	26.4	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	I. Arai, Director.
Tokei (Yeddo) University	29.62	752.3	29.71	754.7	83.5	28.6	89	Calm	0	0	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.4	18.0	97	Calm	0	0	.....	7ck	3s	SE	.....	0.13	3.2	Covered	L. Castillo, A. E.
Guadalajara	25.08	637.0	30.03	762.7	60.8	16.0	90	NW	0.9	0.4	.....	3	.....	E	.....	1.18	30.0	Clear	Prof. L. Perez.
Guanajuato	23.74	603.0	29.89	759.2	64.4	18.0	96	S	.....	.....	.....	0	8	.....	W	2.71	68.9	Covered	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.8	18.1	82	SE	1.8	0.8	.....	2c	8kn	NE	.....	0.17	4.4	Covered	Prof. M. Leal.
Mexico	23.14	587.6	30.11	764.9	58.1	14.7	81	Calm	0	0	.....	0	9k	.....	.....	0.73	18.3	Very cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.9	18.3	89	Calm	0	0	.....	0	10cs	.....	SE	0.47	12.0	Covered	M. V. de Leon, M. E
Puebla	23.39	594.1	30.00	762.1	59.2	15.1	90	ESE	8.5	3.5	.....	0	10n	.....	E	0.06	1.5	Covered	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.25	614.1	30.06	763.1	65.6	18.3	81	SE	0.9	0.4	.....	0	10	.....	.....	.....	.....	.....	G. Barroeta, M. D.
Vera-Cruz	29.98	761.5	30.01	762.1	80.6	27.0	88	SW	.....	.....	.....	0	10n	.....	SE	0.06	1.5	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	82	NE	1.8	0.8	.....	0	10	.....	.....	0.61	15.4	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.33	592.3	30.06	763.6	59.0	15.0	71	SE	2.2	1.0	.....	0	10	.....	ESE	0.39	10.0	Covered	Prof. P. Spina, [M.M. D. D.
Morelia	24.13	613.0	.....	.....	66.2	19.0	67	NE	.....	.....	.....	0	10k	.....	NE	0	0	Covered	M. Tena, F. L. Paramo,
Durango	24.25	615.8	30.04	762.9	68.0	20.0	90	Calm	0	0	.....	0	10kn	.....	.....	0.65	16.5	Covered	M. V. de Leon, C. E.
Colima	28.37	720.6	29.98	761.6	80.6	27.0	81	.....	.....	.....	.....	.....	.....	.....	.....	0.15	3.8	½ cloudy	R. Banda, C. E.
San Juan E. Mishapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,833 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.05	763.2	30.05	763.2	66.2	19.0	.....	NNW	.....	.....	5	.....	.....	.....	.....	0.217	5.5	.....	
Groningen	29.93	760.2	29.98	761.6	64.0	17.8	.....	NE	.....	.....	2	.....	.....	.....	.....	0.016	0.4	.....	
Helder	30.00	762.0	30.00	762.0	64.2	17.9	.....	NNE	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Hellevoetsluis	29.98	761.6	29.98	761.6	61.7	16.5	95	NNW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.93	760.2	29.98	761.4	65.7	18.7	60	NNE	.....	.....	4	.....	5	.....	.....	0.016	0.4	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.07	763.8	30.13	765.2	67.3	19.6	60	NW	4.5	2.0	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.10	764.4	30.13	765.4	64.0	17.8	65	N	4	2	.....	.....	0	.....	.....	0	0	.....	
Christiania	29.95	760.7	30.09	764.3	75.4	24.1	33	E	4	2	.....	.....	2	.....	.....	0	0	.....	
Tromsö	30.00	762.1	30.05	763.2	57.6	14.2	72	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.92	760.0	30.11	764.8	72.7	22.6	79	E	8.1	3.6	.....	.....	3	.....	.....	0.118	3.0	.....	Dr. J. A. Sampaio.
Campo Major	28.84	732.6	29.80	756.9	91.0	32.8	32	ESE	9.4	4.2	.....	.....	8	SSW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.85	758.2	29.94	760.4	75.0	23.9	54	W	6.3	2.8	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.50	749.3	29.85	758.1	77.2	25.1	66	E	3.8	1.7	.....	.....	8	S	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.01	762.3	30.08	764.1	74.1	23.4	59	NE	13.0	5.8	.....	.....	6	ESE	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 32', W. 13° 56'	.....	.....	29.91	759.6	78.4	25.8	.....	NNW	.....	.....	1	.....	5	.....	.....	1	.....	D. clouds	A. M. de Sande, Com'd'. A. D. Pedroso, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, S. 15° 47', E. 11° 47'	.....	.....	30.02	762.4	67.1	19.5	.....	W; WSW	.....	.....	2	.....	5	.....	W	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, Port Melville	.....	.....	29.71	754.7	78.8	26.0	.....	NE	.....	.....	3	.....	0	.....	.....	2	NE	D. clouds	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 41', W. 23° 03'	.....	.....	30.02	762.5	82.4	28.0	.....	ENE	.....	.....	2	.....	5	.....	ENE	2	NE	D. clouds	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	.....	.....	30.01	762.2	71.0	22.0	.....	WNW	.....	.....	1	.....	4	.....	.....	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.48	748.7	29.68	759.0	72.9	22.7	55	Calm	0	0	.....	.....	7ks	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.47	748.6	29.87	758.8	70.9	21.6	49	WNW	2	1	.....	.....	9	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.76	755.9	30.00	761.9	63.1	17.3	47	ENE	9	4	.....	.....	4k	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.96	761.0	29.98	761.4	57.7	14.3	64	NNE	9	4	.....	.....	6n;ks	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[n;c	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.16	740.6	29.77	756.1	69.3	20.7	49	NNW	9	4	.....	.....	10 k;cs	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.70	754.3	29.77	756.1	79.5	26.4	41	N	18	8	.....	.....	4cs	.....	.....	.....	.....	Kurdakof.
Kertch	29.68	753.9	29.70	754.4	77.0	25.0	80	NNW	4	2	.....	.....	3	.....	.....	.....	.....	Lagorio.
Moscow	29.30	744.3	29.84	758.0	60.6	15.9	73	NNW	9	4	.....	.....	7ks	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.45	747.9	29.65	753.0	65.5	18.6	78	E	9	4	.....	.....	10	.....	.....	Blank	Blank	Meteorological Obs.
Archangel	29.97	761.2	29.99	761.7	58.5	14.7	61	N	4	2	.....	.....	10	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.24	717.3	29.56	750.9	82.8	28.2	48	NW	45	20	.....	.....	3k	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.65	753.1	29.57	751.0	75.7	24.3	61	E	7	3	.....	.....	10s;n	.....	.....	Blank	Blank	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.51	749.5	29.77	756.1	67.6	19.8	67	Calm	0	0	.....	.....	9	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.50	724.0	29.43	747.5	53.2	11.8	91	W	31	14	.....	.....	10	.....	.....	.....	.....	Raining	Meteorological Obs.
Nukuss	29.33	745.0	29.55	750.5	90.9	32.7	41	NNE	18	8	.....	.....	5ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.08	713.1	29.64	752.8	91.2	32.9	34	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.04	737.5	29.52	749.8	79.7	26.5	32	SW	4	2	.....	.....	6	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.20	741.7	29.47	748.6	77.0	25.0	68	SW	2	1	.....	.....	0	.....	.....	.....	.....	Dust-haze	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.47	748.4	29.61	752.0	50.4	26.9	88	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47', E. 8° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.84	757.9	29.94	760.4	81.7	27.6	67	S	4.5	2.00	.....	2	.....	.....	.....	0	0	Light clouds	Antonio Rave, Director.
Bilbao, Met. Obs'y	29.89	759.1	29.94	760.5	90.1	32.3	54	SE	3.0	1.32	.....	.....	.....	.....	.....	0.193	4.9	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.08	687.9	.....	.....	81.5	27.5	67	NE	7.6	3.40	.....	.....	.....	.....	.....	0.386	9.8	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.0	29.89	759.2	86.7	30.4	39	NW	5.2	2.33	.....	0	10	.....	.....	Inap.	Inap.	Covered	The Staff.
Murcia, Met. Obs'y	29.81	757.1	29.95	760.7	94.6	34.8	46	NW	3.4	1.53	.....	2	4	NW	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.2	29.52	757.5	86.9	30.5	49	NE	10.4	4.66	.....	3	2	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.3	30.00	761.9	82.4	28.0	80	N	10.5	4.7	.....	3c	1k;kn	W	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.70	754.4	29.80	756.8	87.8	31.0	52	E	28.6	12.8	.....	1	7	E	E	0.007	0.2	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	83.1	28.4	84	SE	0	0	.....	2s	4k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low't 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.06	763.4	30.10	764.4	68.7	20.4	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.07	763.7	30.12	765.0	68.0	20 0	46	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Hernosand	30.01	762.3	30.07	763.6	78.8	26.0	71	S	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.89	759.3	30.07	763.8	67.5	19.7	42	ENE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Wisby	29.92	759.9	29.98	761.4	61.2	16.2	81	NNE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.98	761.6	30.06	763.5	72.1	22.3	38	NE	10.1	4.5	.....	.....	0	.....	.....	0	0	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	726.0	29.04	760.5	77.7	25.4	47	NW	.....	.....	1	.....	7	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.41	721.6	30.01	762 2	66.2	19.0	68	W	.....	.....	2	.....	9	.....	.....	0	0	Cloudy.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.9 mm.; Thermometer, +2.9 cent.; Relative Humidity, —6 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.7	75.6	24.2	59	NE	8	3.5	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.06	763.5	79.3	26.3	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.62	752.3	29.73	755.1	93.7	34.3	51	WSW	.....	.....	2	.....	1k	.....	W	0	0	D. clouds....	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.00	764.3	30.16	766.1	62.7	17.1	75	Calm	0	0	.....	2c	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.66	753.4	29.96	761.0	66	18.9	.....	SW	3	1.3	.....	.....	8s	....	SW	0.04	1.0	Cloudy.....	W. R. Bigg.
*Chatham, N B	30.12	765.0	30.17	766.3	63	17.2	83	Calm	0	0	.....	10c	0	Calm	.....	0	0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island.	30.14	765.5	30.18	766.6	65	18.3	64	E	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.97	761.2	64.8	18.2	92	W	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Overcast.....	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.16	766.1	56.8	13.8	77	W	.....	.....	2	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.98	761.5	30.02	762.5	57.2	14.0	94	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	W. H. Bevis.
*Father Point, Quebec	30.09	764.3	30.11	764.8	56	13.3	71	Calm	0	0	.....	2c	2ks	Calm	Calm	0	0	Clear.....	J. McWilliams.
Fredericton, N. B	30.11	764.8	30.18	766.6	63.8	17.7	74	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy.....	Prof. Harrison.
*Fort Garry Manitoba	28.92	734.6	29.71	754.6	64	17.8	94	S	4	1.8	.....	5k	5n	SW	SW	1.580	40.13	Light rain...	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.79	756.7	29.85	758.2	63	17.2	100	Calm	.....	.....	0	.....	10n	....	.....	0.19	4.8	Overcast....	James Grant.
*Halifax, N. S	30.01	762.2	30.14	765.5	63	17.2	80	N	2.	0.9	.....	.....	10n	.....	SW	0	0	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.81	749.5	29.87	758.7	66.7	19.3	90	NE	.....	.....	3	10ck	0	NE	.....	0.09	2.3	Overcast....	Geo. Dickson, M. A.
Heart's Content, N. F	30.00	763.5	30.08	764.0	59	15.0	92	W	.....	.....	1	0	0	.....	.....	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.62	752.3	29.95	760.7	66	18.9	85	E	9	4.0	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.15	765.8	30.19	766.8	65.0	18 3	.....	W	6	2.7	.....	2c	0	W	.....	0	0	Fair.....	C. H. Rigby.
*Montreal, Quebec	29.82	757.4	30.01	762.2	66	18.9	83	S	6	2.7	.....	5k	2s	NW	.....	0	0	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.27	743.4	29.94	760.5	65	18.3	96	N	7	3.1	.....	2k	5ks	NE	NE	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.16	740.7	29.89	759.2	66.5	19.2	87	E	4	1.8	.....	.....	10n	.....	.....	0.03	0.8	Raining	J. F. Jeffers, B. A.
Port Dover, Ontario	29.18	741.2	29.85	758.2	63	18.3	94	N	7	3.1	.....	.....	Haze	.....	NE	0.12	3.0	Hazy.....	H. Morgan.
Port Hastings, N. S	30.14	765.5	30.18	766.6	64.6	18.1	.....	SW	2	0.9	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.23	742.4	29.85	758.2	64	17.8	94	NW	3	1.3	.....	.....	10n	.....	NE	0.09	2.3	Cloudy.....	M. Payne.
*Quebec, Quebec	29.78	756.4	30.10	764.5	63	17.2	83	NE	.....	.....	1	2c	2ks	NE	NE	0	0	Fair.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.54	750.3	29.99	761.7	59	15.0	91	Calm	0	0	.....	.....	8s	.....	SW	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	30.10	764.5	30.15	765.8	62	16.7	85	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy.....	Dr. Gove.
St. John, N. B	30.03	762.7	30.19	766.8	59	15.0	88	S	8	3.6	.....	4cs	0	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.20	741.7	29.89	759.2	65	18.3	92	NE	10	4.5	.....	.....	10ks	.....	NE	0.10	2.5	Light rain...	K. Stewart.
Stayner, Ontario	29.12	739.6	29.87	758.7	64	17.8	94	E	4	1.8	.....	.....	10n	.....	E	0.06	1.5	Light rain...	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.15	765.8	30.19	766.8	66	18.9	64	W	2	0.9	.....	5c	0	W	.....	0	0	Fair.....	T. C. Hill.
*Toronto, Ontario	29.50	749.3	29.87	758.7	63	17.2	97	E	5	2.2	.....	.....	10n	.....	E	0.07	1.8	Light rain...	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	68.0	20.0	65	W	.....	.	.....	0	0	.....	.....	0	0	Fair.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the SECRETARY OF WAR.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0-10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.76	755.9	29.98	761.5	63	17.2	97	NE	6	2.7	...	.....	10n	.....	E	1.42	36.1	Light rain...	
Alpena, Michigan	29.32	744.7	29.94	760.5	63	17.2	88	NW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Atlantic City, New Jersey	29.88	758.9	29.99	759.4	74	23.3	95	W	8	3.6	.....	.....	10s	.....	Calm	0.82	20.8	Cloudy.....	
Augusta, Georgia	29.86	758.4	30.03	762.7	78	25.6	95	S	4	1.8	.....	.....	10s	.....	SW	2.16	54.9	Cloudy.....	
Baltimore, Maryland	29.84	757.9	29.89	759.2	73	22.8	95	NE	3	1.3	.....	.....	10n	.....	Calm	1.47	37.3	Light rain...	
Barnegat, New Jersey	29.88	758.9	29.90	759.4	71	21.7	95	W	8	3.6	.....	.....	10ks	.....	W	2.28	57.9	Cloudy.....	
Bismarck, Dakota	28.06	712.7	29.91	759.7	60	15.6	82	W	9	4.0	.....	0	1s	.....	Calm	0.11	2.8	Clear.....	
BoiseCity, Idaho	27.13	689.1	30.01	762.2	52	11.1	53	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Boston, Massachusetts	29.93	760.2	30.08	764.0	63	17.2	94	E	6	2.7	.....	.....	10n;fg	.....	E;Calm	0.30	7.6	Light rain...	
Brackettville, Texas	28.88	733.5	29.86	758.4	79	26.1	87	E	2	0.9	.....	0	8s	.....	S	0	0	Fair.....	
Breckenridge, Minnesota	28.78	731 0	29.73	755.1	64	17.8	94	SE	2	0.9	.....	.....	10s	.....	S	1.64	41.7	Cloudy.....	
Brownsville, Texas	29.92	760.0	29.98	761.5	82	27.8	87	SE	2	0.9	.....	0	0	.....	.....	0.18	4.6	Clear.....	
Buffalo, New York	29.12	739.6	29.79	756.7	66	18.9	89	NE	6	2.7	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy.....	
Burkes, Arizona	.....	.....	.....	.....	87	30.6	42	Calm	.....	.....	0	2k	0	SE	.....	0	0	Fair.....	
Burlington, Vermont	29.80	756.9	30.05	763.3	65	18.3	89	S	3	1.3	.....	.....	10n	.....	S	0.08	2.0	Light rain...	
Cairo, Illinois	29.58	751.3	29.96	761.0	82	27.8	75	W	1	0.4	.....	0	0	.....	.....	0.15	3.8	Clear.....	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	48	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	79	26.1	27	E	.....	.....	2	0	0	.....	.....	0	0	Clear.....	
Camp Verde, Arizona	26.72	678.7	30.21	767.3	72	22.2	46	S	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Campo, California	27.34	694.4	29.91	759.7	53	11.7	86	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	30.07	763.8	30.08	764.0	81	27.2	78	SW	17	7.6	.....	5k	5ks	SW	SW	0	0	Cloudy.....	
Cape Henry, Virginia	30.00	762 0	30.02	762.5	76	24.4	91	S	14	6.3	.....	.....	10s	.....	SE	0.04	1.0	Cloudy.....	
Cape Lookout, N. Carolina	30.06	763.5	30.08	764.0	83	28.3	77	SW	23	10.3	.....	2ck	5ks	NW	SW	0.03	0.8	Cloudy.....	
Cape May, New Jersey	29.91	759.7	29.94	760.5	72	22.2	90	SW	10	4.5	.....	10cs	0	W	.....	0.49	12.4	Cloudy.....	
Castroville, Texas	29.23	742 4	29.70	759.4	79	26.1	87	Calm	0	0	.....	0	2ks	.....	S	0	0	Fair.....	
Charleston, South Carolina	30.03	762.7	30.09	764.3	85	29.4	76	SW	12	5.4	.....	0	8s	.....	SW	0	0	Fair	
Cheyenne, Wyoming	24.18	614 2	30.12	765 0	47	8.3	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.19	741.4	29.85	758.2	71	21.7	80	SE	6	2.7	.....	10k	Haze	SE	.....	0	0	Cloudy.....	
Cincinnati Ohio	29.24	742.7	29.86	758.4	75	23.9	81	N	6	2.7	.....	5k	0	NW	.....	0.80	20.3	Fair.....	
Cleveland, Ohio	29.14	740.1	29.83	757.7	68	20.0	90	NW	11	4.9	.....	.....	10ks	.....	NW	0.88	22.4	Cloudy.....	
Columbus, Ohio	29.04	737.6	29.84	757.9	67	19.4	90	NW	8	3.6	.....	.....	10ks	.....	NW	2.28	57.9	Cloudy.....	
Concho, Texas	28.10	713.7	29.72	754.9	70	21.1	95	W	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear.....	
Corsicana, Texas	29.53	750.0	29.98	761.5	77	25.0	95	Calm	0	0	.....	0	0	.....	.....	2.27	57.7	Clear.....	
Davenport, Iowa	29.23	743.7	29.89	759.2	67	19.4	95	NW	1	0.4	.....	.....	Fog	.....	Calm	0.09	2.3	Foggy	
Denison, Texas	29.19	741.4	29.95	760.7	80	26.7	91	S	4	1.8	.....	0	0	.....	.....	0.08	2.0	Clear.....	
Denver, Colorado	24.94	633.5	30.16	766.1	56	13.3	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Detroit, Michigan	29.22	742.2	29.86	758.4	65	18.3	84	N	4	1.8	.....	0	5s	.....	N	0.23	5.8	Fair.....	
Dodge City, Kansas	27.37	695.2	29.55	750.6	71	21.7	75	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Dubuque, Iowa	29.20	741.7	29.87	758.7	68	20.0	79	NW	2	0.9	.....	8k	2s	NW	Calm	0.03	0.8	Cloudy.....	
Duluth, Minnesota	29.17	740.9	29.82	757.4	66	18.9	84	SW	2	0.9	.....	.....	10s	.....	SW	0.03	0.8	Cloudy.....	
Eagle Pass, Texas	29.23	742.4	29.94	760.5	78	25.6	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Eastport, Maine	30.06	763.5	30.13	765.3	65	18.3	63	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	80	26.7	54	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Erie, Pennsylvania	29.11	739.4	29.79	756.7	68	20.0	100	SW	3	1.3	.....	.....	10n	.....	Calm	0.84	21.3	Light rain...	
Escanaba, Michigan	29.25	742.9	29.87	758.7	70	21.1	80	N	1	0.4	.....	8k	Sm'e	N	.....	0	0	Cloudy.....	
Florence, Arizona	.....	.....	.....	.....	77	25.0	28	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Fort Craig, New Mexico	25.60	650.2	29.66	753.4	66	18.9	69	NW	2	0 9	.....	0	0	.....	.....	0	0	Clear.....	
Fort Davis, Texas	25.28	642.1	30.24	768.1	67	19.4	84	NW	2	0.9	.....	10k	0	E	.....	1.20	30.5	Cloudy.....	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760.5	79	26.1	82	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Fort Griffin, Texas	28.73	729.7	29.94	760.5	75	23.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.84	757.9	77	25.0	82	S	3	1.3	.....	0	Fog	.....	Calm	0	0	Light fog....	
Galveston, Texas	29.95	760.7	30.00	762 0	83	28.3	83	S	4	1.8	.....	2k	0	Calm	.....	0.16	4.1	Clear.....	
Grand Haven, Michigan	29.28	743.7	29.91	759.7	65	18.3	73	SE	5	2.2	.....	2ck	0	NW	.....	0	0	Fair	
Indianapolis, Indiana	29.12	739.6	29.86	758.4	71	21.7	85	E	4	1.8	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy.....	
Indianola, Texas	29.98	761.5	30.00	762.0	86	30.6	80	Calm	0	0	.....	1k	0	Calm	.....	0.12	3.0	Clear.....	
Jacksboro, Texas	28.86	733.0	29.95	760.7	76	24.4	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Jacksonville, Florida	30.05	763.3	30.08	764.0	83	28.3	79	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	
Keokuk, Iowa	29.29	744.0	29.88	758.9	73	22.8	76	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	84	28.9	75	NE	15	6.7	.....	9c;k	1ks	E;NE	Calm	0	0	Cloudy.....	
Kittyhawk, North Carolina	30.01	762.2	30.04	763.0	80	26.7	87	SW	18	8.0	.....	5ck	5s	W	SW	0.04	1.0	Cloudy.....	
Knoxville, Tennessee	29.00	736.6	29.96	761.0	73	22 8	95	SW	3	1.3	.....	.....	10s	.....	NW	0.28	7.1	Cloudy.....	
La Crosse, Wisconsin	29.13	739.9	29.83	757.7	71	21.7	80	N	1	0.4	.....	.....	10s	.....	S	0.13	3.3	Cloudy.....	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Laredo, Texas	29.54	750.3	29.86	758.4	80	26.7	87	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Lead City, Dakota	24.91	632.7	.....	.....	52	11.1	79	S	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	
Leavenworth, Kansas	29.11	739.4	29.92	760.0	67	19.4	89	Calm	0	0	.....	.....	10ks	.....	W	0	0	Cloudy.....	
Los Angeles, California	29.49	749.0	29.82	757.4	59	15.0	94	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.36	745.7	29.88	758.9	77	25.0	77	W	8	3.6	.....	0	5ks	.....	W	0.15	3.8	Fair	
Lynchburg, Virginia	29.25	742.9	29.89	759.2	78	25.6	86	S	6	2.7	.....	.....	10n	.....	Calm	0.64	16.3	Light rain...	
Marquette, Michigan	29.20	741.7	29.87	758.7	67	19.4	84	Calm	0	0	.....	10k	0	S	.....	1.02	25.9	Cloudy.....	
Mason, Texas	28.40	721.3	30.06	763.5	82	27.8	74	SW	1	0.4	.....	2ck	2s	Calm	Calm	0	0	Fair	
Memphis, Tennessee	29.68	753.9	29.98	761.5	78	25.6	90	W	2	0.9	.....	.....	Fog	.....	Calm	0.05	1.3	Foggy	
Milwaukee, Wisconsin	29.19	741.4	29.88	758.9	69	20.6	90	SE	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy.....	
Mobile, Alabama	29.97	761.2	30.01	762.2	83	28.3	79	S	2	0.9	.....	5c	2s	Calm	Calm	0.10	2.5	Fair	
Montgomery, Alabama	29.78	756.4	30.00	762.0	83	28.3	79	Calm	0	0	.....	5cs	0	Calm	.....	0.25	6.3	Fair	
Morgantown, West Virginia	28.82	732.0	29.81	757.2	75	23.9	86	SW	3	1.3	.....	.....	10s	.....	SW	1.00	25.4	Threatening	
Mt. Washington, N. H.	23.97	608.8	30.33	770.4	44	6.7	100	SE	20	8.9	.....	.....	10n	.....	SE	0.13	3.3	Light rain...	
Nashville, Tennessee	29.44	747.8	29.94	760.5	78	25.6	86	W	3	1.3	.....	.....	10s	.....	W	0.38	9.7	Threatening	
New Haven, Connecticut	29.85	758.2	29.97	761.2	64	17.8	89	NE	8	3.6	.....	.....	10n	.....	NE	0.36	9.1	Light rain...	
New London, Connecticut	29.96	761.0	30.00	762.0	65	18.3	94	E	17	7.6	.....	.....	10n	.....	E	0.63	16.0	Light rain...	
New Orleans, Louisiana	29.93	760.2	29.99	761.7	83	28.3	79	S	2	0.9	.....	5k	0	Calm	.....	0	0	Fair.....	
Newport, Rhode Island	29.98	761.5	30.03	762.7	65	18.3	94	E	9	4.0	.....	.....	10n	.....	SE	0.56	14.2	Heavy rain..	
New York, New York	29.76	755.9	29.93	760.2	67	19.4	100	NE	12	5.4	.....	.....	10s	.....	NE	1.28	32.5	Cloudy.....	
Norfolk, Virginia	29.94	760.5	29.99	761.7	80	26.7	83	S	1	0.4	.....	10cs	0	SW	.....	0.15	3.8	Cloudy.....	
North Platte, Nebraska	27.19	688.3	29.59	751.6	63	17.2	73	N	6	2.7	.....	10k	0	N	.....	0	0	Cloudy	
Olympia, Washington Ter.	30.02	762.5	30.06	763.5	47	8.3	100	W	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy.....	
Omaha, Nebraska	28.70	729.0	29.72	754.9	70	21.1	80	S	16	7.2	.....	.....	10ks	.....	SW	0.22	5.6	Cloudy.....	
Oswego, New York	29.59	751.6	29.96	761.0	63	18.9	84	SE	13	5.8	.....	.....	10s	.....	SE	0.49	12.4	Cloudy.....	
Pembina, Dakota	28.90	734.0	29.68	753.9	63	17.2	94	S	5	2.2	.....	.....	8s	.....	S	0.76	19.3	Cloudy.....	
Philadelphia, Pennsylvania	29.86	758.4	29.9	759.7	68	20.0	90	NE	4	1.8	.....	.....	10s	.....	Calm	1.43	36.3	Cloudy.....	
Phœnix, Arizona	28.68	728.5	.....	.....	88	31.1	56	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	41	5.0	33	SW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	24.12	612.6	29.81	757.2	64	17.8	12	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Pittsburg, Pennsylvania	29.03	737.7	29.79	756.7	73	22.8	95	W	5	2.2	.....	.....	10n	.....	W	1.10	27.9	Light rain...	
Port Huron, Michigan	29.20	741.7	29.83	757.7	65	18.3	89	NW	4	1.8	.....	.....	10ks	.....	Calm	0.19	4.8	Cloudy	
Portland, Maine	30.01	762.0	30.09	764.3	65	18.3	84	Calm	0	0	.....	.....	10n	.....	Calm	0.32	8.1	Light rain...	
Portland, Oregon	30.02	762 5	30.13	765.3	54	12.2	87	NW	1	0.4	.....	0	5ks;fg	.....	NW;SE	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Prescott, Arizona	24.82	630.4	30.18	766.6	59	15.(	4	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.06	763.5	30.08	764.0	82	27.8	83	N	6	2.7	.....	5cs	0	Calm	.....	2.55	64.8	Fair	
Red Bluff, California	29.42	747.3	29.76	755.9	74	23.3	36	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.25	742.9	29.84	757.9	64	17.8	94	E	10	4.5	.....	.....	10s	.....	SE	0.20	5.1	Cloudy	
Roseburg, Oregon	29.51	749.5	30.08	764.0	52	11.1	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.68	753.9	29.76	755.9	66	18.9	62	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.36	745.7	29.91	759.7	74	23.3	76	W	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	
St. Marks, Florida	30.02	762.5	30.03	762.7	79	26.1	95	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
St. Paul, Minnesota	28.88	736.1	29.77	756.1	62	16.7	94	SE	8	3.6	.....	.....	Fog	.....	.....	0	0	Foggy	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	63	17.2	24	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.33	745.0	29.89	759.2	76	24.4	95	SE	2	0.9	.....	5c	0	Calm	.....	0	0	Fair	
San Diego, California	29.77	756.1	29.84	757.9	64	17.8	89	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.24	742.7	29.88	758.9	68	20.0	84	N	12	5.4	.....	.....	10ks	.....	N	1.07	27.2	Cloudy	
Sandy Hook, New Jersey	29.87	758.7	29.90	759.4	66	18.9	100	E	23	10.3	.....	5k	5ks	W	E	2.11	53.6	Cloudy	
San Francisco, California	29.76	755.6	29.82	757.4	53	11.7	93	SW	9	4.0	.....	0	Fog	.....	Calm	0	0	Fair	
Santa Fé, New Mexico	23.44	595.4	29.68	761.5	61	16.1	40	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.99	761.7	30.08	764.0	90	32.2	70	SW	9	4.0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Shreveport, Louisiana	29.77	756.1	29.98	761.5	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	0.32	8.1	Clear	
Silver City, New Mexico	24.40	619.8	30.44	773.2	68	14.4	75	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	30.06	763.5	30.09	764.3	83	28.3	75	SW	19	8.5	.....	0	8ks	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.84	757.9	29.97	761.2	66	18.9	89	E	3	1.3	.....	.....	10n	.....	E	0.36	9.1	Light rain	
Stockton, Texas	27.00	685.8	30.00	762.0	68	20.0	60	E	4	1.8	.....	5k	0	Calm	.....	0.39	9.9	Fair	
Thatcher's Island, Mass	30.04	763.0	30.09	764.3	65	18.3	94	Calm	0	0	.....	.....	10n	.....	S	0.37	9.4	Light rain	
Toledo, Ohio	29.20	741.7	29.85	758.2	64	17.8	89	E	6	2.7	.....	.....	10s	.....	E	0.36	9.1	Cloudy	
Tucson, Arizona	27.30	693.4	29.85	758.2	80	26.7	43	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.06	763.5	30.08	764.0	85	29.4	76	SW	8	3.6	.....	5cs	2ks	Calm	SW	0	0	Cloudy	
Umatilla, Oregon	29.59	751.6	.....	.....	58	14.4	58	Calm	0	0	.....	8ks	0	W	.....	0	0	Fair	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	78	25.6	91	SE	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Virginia City, Montana	24.34	618.2	29.82	757.4	53	11.7	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.44	747.8	29.80	756.9	67	19.4	64	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.80	756.9	29.91	759.7	73	22.8	100	S	9	4.0	.....	.....	10n	.....	S	3.29	83.3	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	24	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.97	761.2	30.05	763.3	82	27.8	74	SW	14	6.3	.....	8k	0	SW	.....	0	0	Fair	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	49	9.4	44	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.00	762.0	30.05	763.3	65	18.3	94	SE	12	5.4	.....	.....	10n	.....	SE	0.33	9.7	Heavy rain	
Yankton, Dakota	28.60	726.4	29.84	757.9	63	17.2	89	W	3	1.3	.....	0	0	.....	.....	0.64	16.3	Clear	
Yuma, Arizona	29.57	751.1	29.72	754.9	79	26.1	32	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.54	750.3	29.59	751.6	54.5	12.5	84	W	9	4.0	.....	6k	3s	W	W	0.40	10.2	Threatening	J. Fortescue, W. Wood.
Havana, Cuba. W. I	29.90	761.0	29.98	761.5	83	28.3	79	NE	3.6	1.6	.....	8c	4n	E	NE	0.10	2.5	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I	30.13	765.3	30.14	765.5	79	26.1	90	Calm	0	0	.....	8c	3n	Calm	.....	0.33	8.4	.....	F. M. Everett.
Navassa, W. I	29.91	759.7	29.99	761.7	83	28.3	.....	E	10.8	4.8	.....	.....	.....	.....	.....	0	0	Cloudy	C. J. Hering.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	80	26.7	87	SE	.....	.....	2	4c	5k	E	.....	0	0	Fair	Dr. H. Groot.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Medellin, Colombia, S. A	25.25	641.3	.....	.....	68.5	20.3	78	Calm	0	0	.....	3cs;k	5ks	.....	.....	0	0	.....	Thomas Herran.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,600 (?) ft., or 1,096.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.5 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,259 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,170.7 ft., or 4,318.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,680 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Mare Island, Cal.	29.79	756.7	59	15.0	58	13.3	94	SW	13	5.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Navy Yard, Pensacola, Fla.	30.18	766.6	85	29.4	85	29.4	63	SW	1	0.4	.....	.....	8	.....	SW	0.20	5.1	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	30.06	763.5	71	21.7	66	18.9	79	SE	1	0.4	.....	.....	10	.....	.....	0.2	5.	.....	.....	Rainy	
Naval Hospital, Yokohama, Japan	29.80*	756.9*	82.5	28.1	81	27.2	89	Calm	.....	.....	0	.....	2s	.....	SW	0	0	.....	.....	Fair	
Adams, Samoan Islands, S. P.	30.05	763.3	81	27.2	80	26.7	96	E	.....	.....	3	.....	5	.....	E	.....	.....	.....	.....	Pleasant	
Alliance, Havre, France	30.15‡	765.8‡	.....	.....	66	18.9	100	N	.....	.....	1–2	.....	5	.....	N	.....	.....	.....	.....	Hazy	
Ashuelot, Nagasaki, Japan	30.04	763.0	84	28.9	84	28.9	100	SW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Alaska, S. 23° 05', W. 42° 00'	30.47	773.9	71	21.7	71	21.7	71	SE	.....	.....	2	.....	6	.....	SE	0	0	Long	ESE	D. clouds	
Canonicus, New Orleans, La.	30.04	763.0	87	13.9	81	27.2	96	SE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	29.92‡	760.0‡	.....	.....	68	20.0	70	NE	12	5.4	.....	.....	10	.....	ENE	1.39	35.3	.....	.....	Drizzling	
Constitution, Havre, France	30.14‡	765.5‡	.....	.....	65	18.3	94	NNW	.....	.....	2	.....	3	.....	NE	.....	.....	.....	.....	Clear	
Despatch, Prince's Islands, Sea of Marmora	29.92‡	760.0‡	.....	.....	76	24.4	64	N	.....	.....	3	.....	5	.....	N	.....	.....	Smooth	.....	Fair	
Franklin, Norfolk, Va.	30.13	765.3	79	26.1	78	25.6	91	S	14	6.3	.....	.....	1?	.....	SE	0.06	1.5	.....	.....	Cloudy	
Gettysburg Villefranche, France	29.86‡	758.4‡	.....	.....	83	28.3	100	ESE	.....	.....	1	.....	5	.....	ESE	0	0	None	.....	Fair	
Hartford, Rio de Janeiro, Brazil	30.31	769.9	.....	.....	72	22.2	75	N	5.4	2.4	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Marion, Villefranche, France	29.98	761.5	78	25.6	78	25.6	82	SSE	.....	.....	2	.....	5	.....	S	0	0	.....	.....	Fair	
Michigan, Detroit River	29.42	747.3	73	22.8	66	18.9	84	NNW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Monocacy, Yokohama, Japan	29.75‡	755.6‡	.....	.....	84	28.9	83	NW	.....	.....	0–1	.....	2	.....	S	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.	30.30†	769.6†	.....	.....	82	27.8	83	SW	15	6.7	.....	.....	8	.....	S	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.12	765.0	.....	.....	60	15.6	85	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	29.71	754.6	86	30.0	60	26.7	82	S	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Fair	
Pensacola, Mare Island, California	29.91	759.7	61	16.1	58	14.4	88	SSW	7	3.1	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Plymouth, New York, N. Y.	29.90‡	759.4‡	.....	.....	69	20.6	95	ENE	.....	.....	2	.....	10	.....	ENE	.....	.....	.....	.....	Misty	
Ranger, Hong-Kong, China	29.84*	757.9*	.....	.....	86	30.0	83	E	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	D. clouds	
Rio Bravo, Brownsville, Texas	29.94	760.5	79	26.1	80	26.7	91	E	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy	
Santee, Annapolis, Md.	29.92‡	760.0‡	.....	.....	74	23.3	95	SW	.....	.....	2	.....	10	.....	SW	2.06	52.3	.....	.....	Cloudy	
St. Louis, League Island, Pa.	29.88	758.9	72	22.2	70	21.1	95	NNE	2	0.9	.....	.....	10	.....	NNE	0.93	23.6	.....	.....	Foggy	
Supply, Havre, France	30.22	767.6	66	18.9	67	19.4	64	N	.....	.....	1–2	.....	2	.....	N	.....	.....	.....	.....	Clear	
Swatara, Boston, Mass.	30.08‡	764.0‡	.....	.....	70	21.1	100	ESE	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Rainy	
Trenton, Lisbon, Portugal	29.80†	756.9†	.....	.....	76	24.4	73	WNW	.....	.....	2	.....	5	.....	N;W	0	0	.....	.....	Fair	
Tuscarora, Acapulco, Mexico	29.72	754.9	82	27.8	83	28.3	79	ENE	.....	.....	1	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Vandalia, N. 34° 25', E. 24° 49'	29.85‡	758.2‡	.....	.....	83	28.3	71	WNW	.....	.....	3	.....	2	.....	WNW	.....	.....	Smooth	.....	Clear	
Wabash, Boston, Mass.	30.07‡	763.8‡	.....	.....	65	18.3	94	ESE	4	1.8	.....	.....	10	.....	Calm	0.36	9.1	.....	.....	Raining	
Wyoming, N. 44° 14', W. 53° 40'	30.13†	765.3†	.....	.....	65	18.3	89	ENE	.....	.....	1	.....	2	.....	.....	.....	.....	Smooth	.....	Hazy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10. Up'er	0—10. Low'r	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, Yokohoma, Japan		29.89*	759.2*	86	30.0	96	SSW			2		2		SSW	0	Light	SSW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		30.14*	765.5*				Calm			0		2		W				Fair	Capt. Seabury.
S. S. City of Peking, N. 36° 05', W. 171° 00'		30.45†	773.4†	72	22.2	90	ESE	4	1.8			3		E	0	Smooth		Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 25° 31', W. 150° 40'		30.44‡	773.2‡	74	23.3	??	NE			8		8		ENE	Light	Rough	ENE	Squally	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 41° 59', W. 51° 42'		30.07	763.8	69.5	20.8	95	SW			4		7		S	Blank		SSW		Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level, Inches.	Barometer reduced to sea-level, Millimeters.	Temperature of the air, Fahrenheit.	Temperature of the air, Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Lo'wr 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction From—	Weather.	Observer.
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.13*	765.3*	76	24.4	95	SW			2		2		SW	0			Clear	Captain Sargent.
S. S. Ohio. Liverpool		30.20	767.1	74	23.3	76	W			2		5		W	0			Clear	Captain Morrison.
S. S. Pennsylvania																			Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Near Disco Island		29.67*	753.6*	37.8	3.2	86	ENE			1		10s			0			Clearing	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assq^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON JULY 31, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	30.00	762.0	72.1	22.3	83	NE	.....	.....	3	.....	1	.....	.....	0	0	Very fair	Dr. Ollive.
Nemours	.....	.....	29.95	760.6	85.1	29.5	75	NW	.....	.....	1	.....	2	.....	.....	0.024	0.6	Fair	Michel.
Algiers	.....	.....	29.85	758.2	85.3	29.6	74	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Tourillière.
La Calle	.....	.....	29.91	759 6	86.4	30.2	78	NNW	.....	.....	3	.....	4	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29 88	759.0	103.1	39.5	.....	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	Jacques.
Sfax	.....	.....	29.96	761.0	89.6	32.0	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.01	762.3	93.0	33.9	30	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.95	760 7	98 1	36.7	10	N	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Watrin.
Geriville	.....	.....	30.03	762.8	92.8	33.8	48	SSE	.....	.....	6	.....	3	.....	.....	0	0	Pretty fair	Brugnlaux.
Laghouat	.....	.....	30.03	762.8	98 6	37.0	41	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.91	759.8	104.9	40 5	.....	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.28	743.7	29.81	757.1	71.1	21.7	49	NW	.....	.....	3	.....	8	.....	.....	0.252	6.4	.....	Prof. Ivan Stozu.
Cracow	29.02	737.0	29.74	755.5	69.1	20.6	40	W	.....	.....	1	.....	10	.....	.....	0.079	1.99	.....	Prof. Dr. Karlinski.
Eperies	28.83	732.3	29.67	753.7	68.0	20.0	75	N	.....	.....	2	.....	10ns	.....	.....	0.459	11.65	.....	Julius Mikolik.
Gratz	28.63	727.1	29.84	757 8	66.6	19 2	55	NW	.....	.....	5	.....	7	.....	.....	0.472	12.00	.....	Andreas Rospini.
Hermannstadt	28.24	717.3	29.60	751 7	69.8	21.0	60	S	.....	.....	4	.....	10	.....	.....	0.217	5.50	Raining	Prof. Reissenberg
Kremsmünster	28.63	727.1	29.96	760.9	56.1	13.4	89	WNW	.....	.....	3	.....	10	.....	.....	0.445	11.3	.....	Prof. C. Wagner
Lemberg	28.73	729.8	29.65	753.0	64.7	20.4	63	NE	.....	.....	2	.....	8	.....	.....	0.331	8.4	.....	Dr. T. Stanecki.
Poln	29.69	754.0	29.79	756.7	77.5	25 3	57	S	.....	.....	1	.....	1s	.....	.....	1.020	25.9	.....	I.R.Hydrographic Office
Szathmar	29.24	742.7	29.72	754.9	66.2	19.0	87	NE	.....	.....	4	.....	10	.....	.....	0.772	19.6	Raining	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.74	755.5	29.85	758.1	73.8	23 2	52	WNW	.....	.....	1	.....	2	.....	.....	Inap	Inap	Raining	P. Busin.
Vienna	29.17	740.9	29.68	759.0	55.8	13.2	94	NW	.....	.....	4	.....	10	.....	.....	0.378	9.6	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.73	729.7	30.22	767.5	63.0	17.2	64	NE	.....	.....	5	.....	9	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	30.03	762.8	30.24	767.8	69.6	20.9	61	NE	.....	.....	4	.....	8	.....	NE	0.010	0.25	.....	Royal Observatory
Furnes	30.30	769.5	30.32	770.1	67.6	19.8	77	NW	.....	.....	4	.....	6	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.11	764.9	30.24	768.1	63.9	17.7	91	N	.....	.....	2	.....	7	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

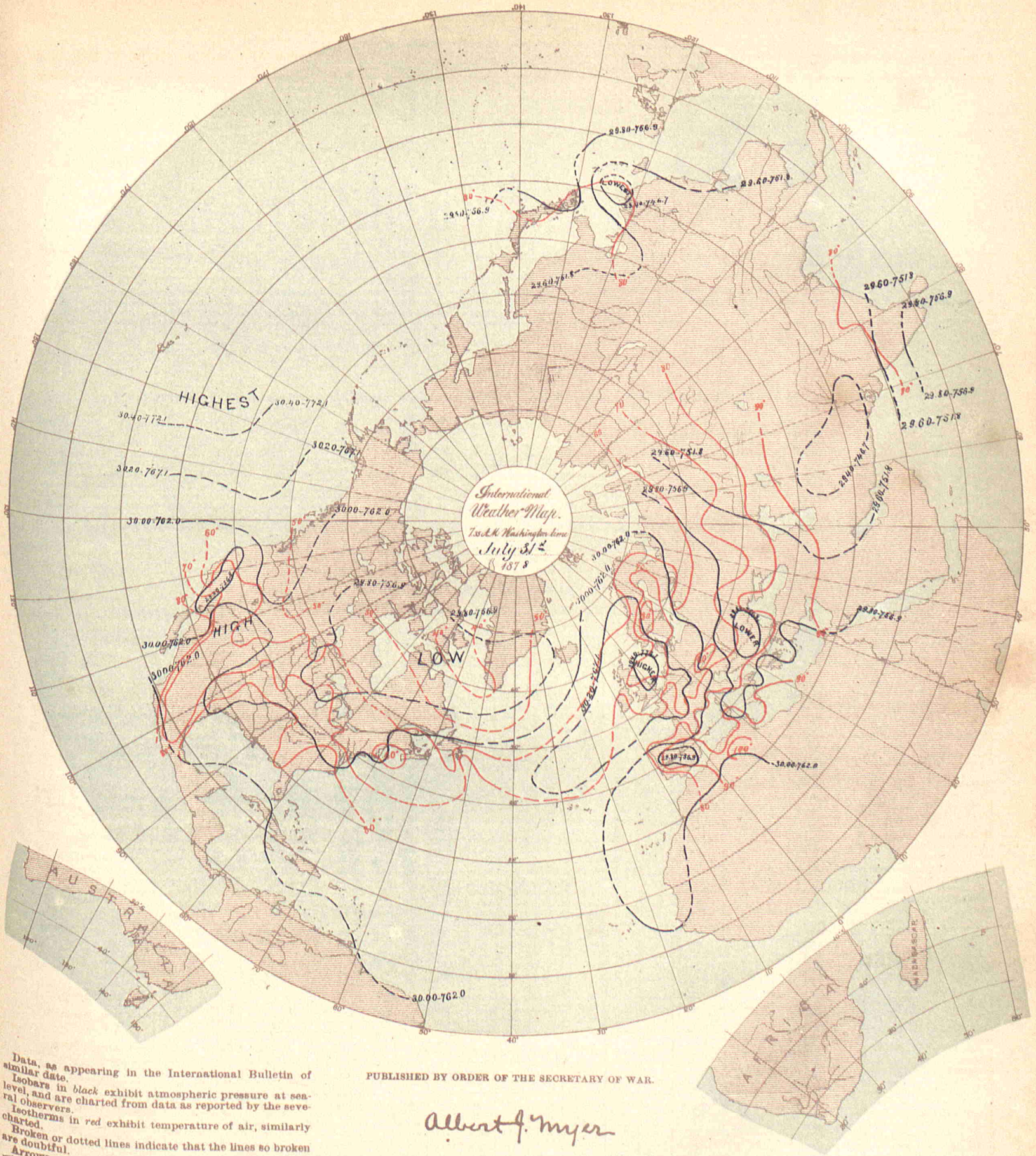
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.30	769.6	30.40	772.1	65.2	18.4	.....	SE	15	6.7	.....	.....	1	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.37	771.4	30.38	771.6	69	20.6	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	George Carrick.
Armagh, Observatory	.....	.....	30.38	771.6	69.6	20.6	.....	SE	10	4.5	.....	.....	1	.....	.....	.....	.....	D. clouds	S. Cail.
Bidston, (Liverpool Obs.)	.....	.....	30.38	771.6	68 0	20.0	.....	SE	5	2.2	.....	.....	0	.....	.....	.....	.....	Blue sky	John Hartnup.
Birr Castle, (Parsonstown)	.....	.....	30.34	770.6	73.0	22.8	.....	SSE	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	30.01	762.2	30.41	772.4	62.5	16.9	.....	NE	.....	.....	0	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.04	763.0	80.5	26.9	.....	SE	.....	.....	2	.....	3?	.....	.....	.....	.....	Overcast?	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.36	771.1	65.0	18.3	.....	NNE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	H. Todd. [H.C.
Cardington	.....	.....	30.38	771.6	66.0	18.9	.....	N	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	30.20	767.1	30.33	770.4	68.2	20.1	.....	NE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	Lt. W. G. Morris, R. E.
Dartmoor	28.79	731.3	30.22	767.6	67.0	19.4	.....	E	.....	.....	3	.....	2	.....	.....	.....	.....	Fine	Alexander Watt.
Donaghadee	30.37	771.4	30.40	772.1	65	18.3	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	J. Mac Gowan.
Dover	30.30	769.6	30.33	770.4	65	18.3	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast	J. Costello.
Eccles, (near Manchester)	.....	.....	30.38	771.6	68.6	20.3	.....	SE	1.4	0.6	.....	.....	.....	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Falmouth, Observatory	30.11	764.8	30.34	770.6	64 9	18.2	.....	ESE	.....	.....	3	.....	1	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.62	701.5	29.93	760.2	64.8	12.7	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Pvt. G.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.80	756.9	30.03	762.7	82	27.8	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	.....
Galway, Queen's College	.....	.....	30.30	769.6	73	22.8	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.83	757.7	29.88	758.9	77.1	25.1	.....	E	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.17	766.3	30.37	771.4	68.7	20.4	.....	WNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	D. G. Maclean.
Great Yarmouth	30.36	771.1	30.37	771.4	62	16.7	.....	NNE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	30.18	766.6	30.35	770.9	69.7	20.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	30.07	763.8	30.29	769.4	65	18.3	.....	NNE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.32	770.1	69	20.6	.....	NE	.....	.....	4	.....	1c	.....	.....	.....	.....	Fine	M. P. Moyle.
Holyhead	30.34	770.6	30.39	771.9	65	18.3	.....	NNE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	30.03	762.7	30.32	770.1	67.6	19.8	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	30.36	771.1	66.1	18.9	.....	NNE	10	4.5	.....	.....	9	.....	.....	.....	.....	D. clouds	The Staff.
Kingstown	30.36	771.1	30.39	771.9	64	17.8	.....	ESE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky	George Mitchell.
Leicester, Museum	.....	.....	30.38	771.6	64.1	17.8	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.79	756.7	29.86	758.4	85	29.4	.....	SW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Sgt. Hewitt, A. H. C.
Nairn	30.27	768.8	30.36	771.1	70	21.1	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Hazy	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.07	763.8	87.0	30.6	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.21	767.3	30.40	772.1	69.1	20.6	.....	NNW	.....	.....	1	.....	10k	.....	NNE	0	0	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.87	758.7	30.39	771.9	62.5	16.9	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.34	770.6	64	17.8	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	H.E. Bellamy.
Plymouth	30.26	768.6	30.33	770.4	68.0	20.0	.....	ENE	.....	.....	4	.....	1	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	30.29	769.4	30.33	770.4	71	21.7	.....	ESE	.....	.....	3	.....	5	.....	.....	.....	.....	Fine	W. Kennedy.
Saint Ann's Head	30.19	766.8	30.35	770.9	64	17.8	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Hazy	John O. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.38	771.6	63	17.2	.....	SSW	6	2.7	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.74	755.4	84.2	29.0	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	30.14	765.5	30.42	772.7	64.4	18.0	.....	NNE	.....	.....	1	.....	10	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	30.36	771.1	30.39	771.9	75.6	24.2	60	Calm	.....	.....	0	.....	0	.....	.....	0	0	Blue sky	C. Edith Redford.
Stonyhurst, Observatory	30.01	762.2	30.41	772.4	65.9	18.8	.....	ENE	.....	.....	1	.....	.....	.....	.....	.....	.....	Blue sky	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C. (Hebr.)	30.29	769.4	30.32	770.1	62	16.7	.....	SSE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	30.14	765 5	30.36	771.1	65.8	18.8	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	D. clouds	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	30.38	771.6	63	17.2	.....	NNE	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky	John Trotter.
Truro, Royal Institution	.....	.....	30.33	770.4	73	22.8	.....	SE	.....	.....	6	.....	2	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	30.31	769.9	71.4	21.9	.....	SSE	17	7.6	.....	.....	0	.....	.....	.....	.....	Hazy	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	30.12	765.0	55.0	12.8	81	S	.....	.....	2	.....	4k	.....	.....	0.01	0.3	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.8	72.1	22.3	59	E	10.5	4.7	.....	.....	10	.....	.....	0	0	Overcast	C. Meldrum.
Melbourne, Observatory	30.06	763.5	30.15	765.8	44.8	7.1	78	SE	10	4.5	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to sea-level; the amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Barometer. Inches.	Barometer. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
S. S. Algeria. N. 40° 30' W. 73° 55'	10*	.....	29.96	761.0	68	20.0	NE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine. N. 61° 0', W. 48° 25'	.....	.....	29.63	752.6	34	1.1	NW	.....	.....	5	.....	10	.....	.....	2	.....	Foggy	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller. N. 45° 0', W. 53° 45'	.....	.....	30.13	765.3	60	15.6	SSE	.....	.....	2	.....	7	.....	.....	2	.....	D. clouds	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.28	667.5	.....	.....	68.0	20.0	91	SE	.....	.....	1	4c	1s	.....	.....	0.9	23.	.....	Federico Maison
.....																			

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.10	764.6	30.15	765.8	69.6	20.9	54	NNW	.....	.....	4	.....	1	.....	.....	.....	.....	.....	
Fanöe	30.18	766.6	30.20	767.1	75.7	24.3	63	NNW	.....	.....	4	.....	2	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.62	752.3	29.66	753.4	43.9	6.6	81	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	.....	
Stykkisholm, (Iceland)	29.78	756.3	29.82	757.4	55.0	12.8	75	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Raining	
Thorshavn, (Farôe)	30.18	766.6	30.22	767.5	60.4	15.8	79	SW	.....	.....	4	.....	10	.....	.....	.....	.....	.....	
Vestervig	30.08	763.9	30.24	768.2	70.5	21.4	65	NNW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	
.....																			
.....																			
.....																			
.....																			

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.78	756.4	30.33	770.4	68.0	20	55	NE	.....	.....	4	.....	5	.....	NE	0	0	Cloudy	Collignon, Director.
Amiens, Normal School	30.13	765.2	30.24	768.0	72.0	22.2	64	N	.....	.....	3	.....	5	.....	NW	0	0	Cloudy	Bonvallet, Director.
Avignon, Normal School	29.87	758.6	29.95	760.6	78.1	25.6	34	N	.....	.....	8	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.65	753.0	30.08	764.1	69.6	20.9	46	NE	.....	.....	2	.....	8kn	.....	NE	0	0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais	30.09	762.0	30.28	769.1	71.2	21.8	49	NNE	.....	.....	3	.....	8	.....	NNE	0	0	Very cloudy	Normal School.
Besançon	29.29	744.0	30.17	766.2	68.9	20.5	58	NE	.....	.....	2	.....	2	.....	N	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse	29.30	744.2	30.23	767.9	70.7	21.5	55	NE	.....	.....	6	.....	2k	.....	E	0	0	Slightly cl'dy	Normal School.
Bourges, Normal School	29.62	752.4	30.23	767 8	68.4	20.2	61	NNE	.....	.....	4	.....	k	.....	NNE	0	0	.....	A. Wagner, Director.
Brest, Naval Observatory	29.96	760.9	30.20	767.1	70 9	21.6	50	NE	.....	.....	4	.....	3k	.....	NE	0	0	.....	The Staff.
Carcassonne, Normal School	29.60	751.8	29.98	761.6	87.8	31	54	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.67	753.6	30.22	767.6	71.8	22.1	77	E	.....	.....	3	.....	7	.....	S	0	0	.....	Lequin, Director.
Châlons-sur-Marne, N. Sch'l	29.89	759.3	30.17	766.3	70.7	21.5	59	S	.....	.....	4	.....	5k	.....	S	0.004	0.1	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.82	732.0	30.15	765.8	65.5	18.6	56	NNE	.....	.....	2	.....	8	.....	NE	0	0	Very cloudy	Alluard, Director.
Commercy, Normal School	29.32	744.8	30.18	766.6	64.8	18.2	72	N	.....	.....	6	.....	5	.....	S	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.83	732.3	29.97	761.3	79.7	26.5	29	NW	.....	.....	6	.....	0	.....	.....	0	0	Clear	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.99	761.8	30.20	767 0	72.7	22.6	52	NE	.....	.....	6	.....	5	.....	NE	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.94	760.4	30.24	768.1	68.4	20.2	57	NE	.....	.....	4	.....	2	.....	NE	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.26	743.1	30.15	765.8	67.1	19.5	57	NE	.....	.....	3	.....	2	.....	NE	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	30.13	765.4	30.23	767.9	70.2	21.2	53	NE	.....	.....	3	.....	8	.....	E	0	0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.47	748.4	30.14	765.6	68.0	20	85	N	.....	.....	4	.....	5	.....	N	0	0	Cloudy	M. Galzin, Director.
Mirecourt	29.10	739.0	30.12	765.1	64.9	18.3	59	NE	.....	.....	4	.....	2	.....	SE	0	0	Slightly cl'dy	Normal School
Nismes, Normal School	29.75	755.7	29.95	760.6	81.0	27.2	38	N	.....	.....	6	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Orleans, Normal School	29.82	757.4	30.19	766.8	77.0	25	51	NE	.....	.....	2	.....	2	.....	NE	0	0	Slightly cl'dy	Bernard, Director.
Paris, Observatory	30.01	762.2	30.24	768.1	70.3	21.3	51	E	.....	.....	1	.....	5	.....	E	0	0	Cloudy	National Observatory.
Privas, Normal School	29.02	737.1	30.04	763.1	76.1	24.5	54	N	.....	.....	6	.....	1	.....	N	0	0	Clear	M. Cantier.
Puy de Dome (Summit)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.17	766.2	30.20	767.0	73.8	23.2	34	E	.....	.....	5	.....	0	.....	.....	0	0	Clear	Lt. Decante, Director.
Rouen, Normal School	30.20	767.0	30.28	769.1	72.1	22.3	57	NNW	.....	.....	3	.....	2	.....	NE	0.051	1.3	Slightly cl'dy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. H. Hercouet.
Tarbes, Normal School	29.07	738.3	30.10	764.4	82.4	28	63	W	.....	.....	3	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.50	749.3	30.20	767.0	72.5	22.5	66	N	.....	.....	6	.....	2	.....	N	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	.....	.....	29.95	760.8	82.8	28.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchés.
Lyons	.....	.....	30.13	765.2	67.6	19.8	51	.....	.....	.....	.....	.....	4	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.84	758.0	80.1	26.7	40	W	.....	.....	6	.....	0	.....	.....	0	0	Clear	The Staff.
Mont-Louis	24.96	634.0	30.28	769.0	72.0	22.2	52	ENE	7.4	3.33	.....	.....	2	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	29.85	758.3	77.7	25.4	80	NW	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.97	761.1	30.24	768.1	69.1	20.6	57	E	.....	.....	3	.....	6	.....	NNE	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	29.98	761.4	82.4	28.0	46	SE	7.4	3.33	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.73	577.4	.....	.....	62.2	16.8	.....	NE	.....	.....	3	.....	2	.....	.....	0	0	Clear	Gen'l de Nansouty
Saint Maur, (near Paris)	30.08	764.1	30.25	768.3	69.8	21.0	59	N	.....	.....	3	.....	10	.....	NNE	0	0	.....	E. Renou.
Toulouse, Observatory	29.37	746.1	30.10	764.5	79.9	26.6	27	N	.....	.....	2	.....	1	.....	.....	0	0	.....	The Staff.
Tours	30.01	762.3	30.21	767.3	72.0	22.2	59	NE	.....	.....	2	.....	5	.....	NE	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	30.26	768 5	70.9	21.6	48	NE	.....	.....	4	.....	9	.....	.....	0	0	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.37	746.1	29.40	746.7	77.0	25.0	99	WNW	21.5	9.6	.....	.....	10n	.....	.....	1.185	30.1	Raining	Marc Dechevrens,
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.6	30.00	762.0	68.4	20.2	55	N			3		3	NW		0	0		Prof. Dr. Hoh.
Berlin	29.89	759.3	30.06	763.5	71.8	22.1	46	NE			3		4			0	0		Prof. Arndt.
Breslau	29.42	747.2	29.95	760.6	71.6	22.0	56	NNE			4		5			0	0		Royal University Obs'y
Carlsruhe	29.69	754.0	30.11	764.7	67.3	19.6	64	N			2		10			0.157	4.0		Albert Senz.
Cassel	29.81	757.2	30.19	766.7	65.5	18.6	82	N			1		8	NW		0.408	12.65		Dr. H. Möhl.
Crefeld	30.03	762.7	30.19	766.8	72.1	22.3	57	N			4		5k			0.24	6.		Director Lose.
Emden	30.13	765.4	30.18	766.6	71.6	22.0	64	N			2.5		0			0	0		Prof. Prestel.
Frankfort on the Main	29.83	757.6	30.19	766.7	68.9	20.5		N			3		4			0.016	0.4		Physical Society.
Friedrichshafen	28.69	728.8	30.11	764.7	62.6	17.0	77	WSW					10	WNW		0.228	5.8	Showery	M. Wilhelm.
Hamburg	30.10	764.6	30.17	766.3	68.7	20.4	61	ENE			4		3k			0.524	13.3	Clear.	Captain F. Hegemann.
Kiel	30.17	766.2	30.18	766.6	68.0	20.0	62	N			3		0			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.91	759 6	29.99	761.7	67.6	19.8	62	NE			5		4			0.067	1.7		Prof. E. Luther.
Köslin			30.05	763.3	66.2	19.0		N			4		0			0	0		H. Müller.
Leipsic, Observatory	29.69	754.2	30.11	764.7	67.1	19.5	67	NNW			2		8	N				Rainy	Prof. Bruhns.
Memel, Naval School	29.93	760.1	29.97	761.3	65.1	18.4	61	NW			5		3k;cs						Reinbrecht and Skalweit.
Neufahrwasser	30.02	762.5	30.04	762.9	66.6	19.2	61	N			4		1			0	0		A. Lothes.
Posen	29.74	755.4	30.02	762.5	71.4	21.9	36	N			8		5			0	0		Dr. Magener.
Strassburg (in Alsace)	29.63	752.5	30.17	766.2	65.1	18.4	63	NE			4		10	ENE		0.019	0.47	Raining	Astronomical Observatory.
Stuttgart	29.18	741.2	30.11	764.7	63.1	17.3	63	N			1		8	N		0.031	0.8		Prof. Schoder.
Treves, (Trier)	29.63	750.1	30.06	763.4	69.1	20.6	54	N			5		6			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.58	725.8	30.03	762.8	64 2	17.9	54	NNE	4	2			7ck		N	0.083	2.1		Dr. Von Bebber.
Wustrow, Naval School	30.16	766.1	30.20	767.1	65.1	18.4	68	N			2		0			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.38	746.2	29.75	755.6	85.6	29.8		SW			1.5								Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.36	745.7	29.41	747.0	82.2	27.9	91	ENE	10?	4.5?			10			1.40	37.8	Threatening	
Deesa	29.01	736.9	29.48	748.9	83.1	28.4	87	S					9		SSW	0.47	11.9	D. clouds	
Bombay	29.63	752.6	29.67	753.6	82.9	28.3	87	WSW	22	9.8			10		WSW	1.07	27.2	Overcast	
Poona	27.71	703.7	29.71	754.6	74.8	23.8	83	W					10		W	0.64	16.3	Overcast	
Lahore	28.80	731.4	29.53	750.2	78.9	26.1	89	E	5.6	2.5			10		SE			Raining	
Belgaum	27.25	692.0	29.80	756.8	72.2	22.3	92	W	10	4.5			10		W	1.40	35.6	Raining	
Bangalore																			
Roorkee	28.59	726.1	29.46	748.2	90.8	32.7	58	SE	9.7	4.3			6			0	0		
Agra	28.93	734.7	29.48	748.8	84.7	29.3	67	E	4	1.8					E	0	0		
Trichinopoly																			
Nagpur	28.56	725.4	29.69	751.6	82.1	27.8	78	W	7.2	3.2			9		E	0.15	3.8	Thunder-storm	
Madras																			
Lucknow	29.12	739.5	29.48	748.7	89.2	31.8	73	N	2.3	1.0			10			0	0	Overcast	
Allahabad	29.18	741.1	29.48	748.7	88.6	31.4	77	Calm	1.2	0.5			8	W		2.44	62.0	D. clouds	
Patna	29.34	745.2	29.52	749.7	89.2	31.8	69	E	1.8	0.8			5	E	E	0	0	D. clouds	
Hazaribagh	27.52	698.9	29.50	749.2	81.0	27.2	81	SE	5.6	2.5			6			0.09	2.3	Drizzling	
Cuttack	29.41	747.1	29.49	749.1	82.0	27.8	83	WSW	1.8	0.8			5			0.06	1.5	D. clouds	
Calcutta (Alipore)	29.48	748.8	29.50	749.4	85.6	29.8	81	SSE					7	SSE	SSE	0	0	D. clouds	
Goalpara	29.12	739.6	29.50	749.3	85.3	29.6	80	Calm	2.7	1.2			7	SE		0	0	D. clouds	
Chittagong	29.49	749.0	29.58	751.2	84.4	29.1	85	SSW	6.0	2.7			9			0	0	Gloomy	
Sibsagar	29.19	741.5	29.52	749.9	85.2	29.6	79	NW	1.0	0.4			7			0	0	D. clouds	
Rangoon																			
Jubbulpore	28.22	716.8	29.57	751.1	80.1	26.7	83	NW	3.1	1.4			10			0.10	2.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.4	29.86	758.4	74.7	23.7	44	NE	0.7	0.3	.....	.....	7	.....	.....	0.299	7.6	.....	Prof. Giovanni Clodig.
Padua	29.74	755.3	29.84	758.0	76.5	24.7	46	S	0.7	0.3	.....	.....	6	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.66	753.3	29.84	758.0	76.1	24.5	53	SE	0	0	.....	.....	0	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.56	725.4	29.82	757.3	77.7	25.4	45	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Schiaparelli.
Moncalieri	28.99	736.4	29.86	758.4	78.3	25.7	49	ESE	2.5	1.1	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.01	711.4	29.83	757.7	73.9	22.9	46	NW	.....	.....	4	.....	1	N	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.62	752.4	29.84	757.8	79.2	26.2	62	ESE	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.64	752.8	29.80	757.0	83.1	28.6	28	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.56	750.9	29.86	758.5	77.9	25.5	42	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.56	750.9	29.81	757.1	75.2	24.0	78	W	.....	.....	2	.....	9	NW	.....	0.079	2.0	.....	Cav. F. Meucci.
Leghorn	29.72	754.9	29.80	756.9	80.1	26.7	66	SW	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.79	756.7	29.84	757.8	72.9	22.7	51	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.34	719.8	29.83	757.7	67.1	19.5	72	E	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.61	752.1	29.78	756.4	83.1	28.4	55	S	13.0	5.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.65	753.1	29.84	758.0	79.7	26.5	60	SSW	.....	.....	4	.....	5	SW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	.....	.....	.....	.....	87.1	30.6	31	S	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.60	751.7	29.78	756.4	93.4	34.1	22	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.96	735.6	29.80	757.0	86.9	30.1	69	SW	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.62	752.3	29.86	758.5	79.7	26.5	60	E	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.74	755.4	29.82	757.3	91.8	33.2	28	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.33	745.0	29.89	759.1	76.5	24.7	72	NE	1.8	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 879.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.66	753.3	29.86	758.4	79.4	26.3	87	S	5.3	2.4	.....	.....	6ks;s	.....	S	0.230	5.84	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory.	29.59	751.6	29.66	753.3	80.1	27.2	90	S	1.8	0.8	.....	.....	1s	.....	.....	0	0	Fair	
Tokei (Yeddo) University	29.55	750.6	29.64	752.8	82	27.8	91	Calm	0	0	.....	1c	.....	.....	.....	0	0	Fine	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	63.1	17.3	80	N	1.8	0.8	.....	7ck	0	E	.....	0.18	4.6	Cloudy	L. Castillo, A. E.
Guadalajara	25.12	638.1	30.08	763.9	60.8	16.2	88	SE	0.9	0.4	.....	0	10	.....	SE	0.28	7.0	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	.....	.....	.....	.....	64.5	18.0	88	NE	0.9	0.4	.....	.....	10u	.....	.....	0.89	21.6	Rainy	Prof. M. Leal.
Mexico	23.16	588.2	30.14	765.5	59.0	15 0	90	Calm	0	0	.....	3c	5k	E	.....	0.06	1.5	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.8	18.2	85	N	0.9	0.4	.....	0	9ks	.....	E	0	0	Cloudy	M. V. de Leon, M. E
Puebla	23.31	594.6	30.07	763.8	56.7	13.7	81	NE	2.7	1.2	.....	0	2cs	.....	.....	0.51	12.8	Clear	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.40	619.4	30.23	767.8	62.8	16 7	34	SE	0.9	0.4	.....	0	9	.....	SE	0	0	Very cloudy	G. Barroeta, M. D.
Vera-Cruz	30.03	762.7	30.05	763.2	80 6	27.0	84	Calm	0	0	.....	4cs	5sk	.....	.....	0.11	2.6	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	NE	5.1	2.3	.....	0	10	.....	E	0.16	4.0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.33	592.4	30.06	763.7	54.0	12.2	74	E	2.2	1.0	.....	0	2	.....	.....	0.32	8.0	Clear	Prof. P. Spina, [M. M. D. D.
Morelia	24.15	613.5	.....	.....	64.4	18.0	66	SE	0.9	0.4	.....	0	10k	.....	SE	0.23	5.9	Covered	M. Tena, F. L. Paramo,
Durango	24.27	616.5	30.08	763.9	66.0	18.9	93	Calm	0	0	.....	0	10kn	.....	.....	0.26	6.7	Covered	M. V. de Leon, C. E.
Colima	28.39	721.0	30.09	762.0	80.4	26.9	86	.....	.....	.....	.....	.....	.....	.....	.....	2.86	72.7	Covered	R. Banda, C. E.
San Juan E. Mi-hapam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,165 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,365.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.30	769.5	30.30	769.5	68 7	20.4	.....	N	.....	.....	4	.....	.....	.....	.....	0.059	1.5	.....	
Groningen	30.19	766.9	30.25	768.3	67.6	19.7	.....	N	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.27	768.9	30.27	768.9	63.3	17.4	.....	N	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.24	768.2	30.24	768.2	70.3	21.3	75	NNE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.21	767.3	30.26	768.5	71.4	21.9	64	NNE	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.21	767.2	30.26	768.6	63.7	17.6	68	NNW	12.1	5.4	.....	.....	1	.....	.....	0	0	....	
Brönö	30.26	768.5	30.30	769.5	53.6	12.0	89	W	9	4	.....	.....	10	.....	.....	0	0	Foggy	
Christiania	29.98	761.6	30.12	765.1	82.6	28.1	35	W	4	2	.....	.....	3	.....	.....	0	0	.....	
Tromsö	30.08	763 9	30.12	765.0	60.1	15.6	60	Calm	0	0	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.83	757.6	30.02	762.4	72.3	22.4	76	W	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.89	733.7	29.84	758.0	91.0	32.8	36	SSW	11.2	5.0	.....	.....	3	.....	.....	0	0	Solar corona.	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.85	758.2	29.94	760.4	74.1	23.4	63	W	11.9	5.3	.....	.....	0	.....	.....	0.177	4.5	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.56	750.9	29.92	759.9	71.2	21.8	63	SW	17.4	7.8	.....	.....	4	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.94	760.4	30.01	762.2	73.8	23.2	68	NE	9.4	4.2	.....	.....	3	.....	.....	0.031	0.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando. N. 37° 47', W. 14° 26'	2	SSW	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47', E. 11° 47'	2	W	D. clouds	A. J. de Mattos, Com'd't
Rio Douro, Port Melville	8	S	Threatening	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 41', W. 23° 03'	1	NNE	Blue sky	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	2	W	Blue sky	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.46	748.3	29.57	758.7	68.0	20.0	57	NNE	13	6	.....	.....	8ks	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.51	749.5	29.92	759.9	63.5	17.4	42	N	7	3	.....	.....	0	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.70	754.3	29.94	760.4	56.7	13.7	89	N	4	2	.....	.....	10n	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.90	759.4	29.91	759.8	63.3	17.4	63	NE	11	5	.....	.....	4k	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[illegible]	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.10	739.1	29.70	754.4	73.0	23.1	48	ENE	7	3	.....	.....	7k;ks	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.71	754.6	29.78	756.4	82.0	27.8	38	N	4	2	.....	.....	6k	.....	.....	.....	.....	Kurdakof.
Kertch	29.77	756.2	29.79	756.7	77.1	25.1	43	N	9	4	.....	.....	0	.....	.....	.....	.....	Lagorio.
Moscow	29.31	744.5	29.85	758.2	61.0	16.1	86	S	7	3	.....	.....	8ks	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.48	748.9	29.69	754.0	68.9	20.5	64	NNW	2	1	.....	.....	9ck	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.98	761.4	30.00	761.9	57.0	13.9	69	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.32	719.4	29.65	753.1	83.5	28.6	38	NE	22	10	.....	.....	7ks	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.70	754.4	29.62	752.3	79.5	26.3	63	ENE	7	3	.....	.....	9kn	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.48	748.9	29.74	755.4	72.5	22.5	41	NW	4	2	.....	.....	3	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischet.
Ekaterinburg	28.62	727.0	29.54	750.2	63.3	17.4	70	NW	9	4	.....	.....	10	.....	.....	.....	.....	Meteorological Obs
Nukuss	29.20	741.6	29.41	747.1	91.0	32.8	44	WNW	7	3	.....	.....	7ks	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.02	711.8	29.58	751.2	94.6	34.8	32	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Michelson.
Barnaul	29.00	736.6	29.48	748.8	81.5	27.4	53	SW	4	2	.....	.....	9	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.17	741.0	29.45	747.9	76.5	24.7	78	NW	2	1	.....	.....	3	.....	.....	Blank	Blank	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.51	749.5	29.65	753.1	82.6	28.1	89	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47', F. 8° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.4	29.96	761.0	77.7	25.4	57	E	4.0	1.78	.....	7	4	S	.....	0	0	Lightly cov.	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.04	763.1	30.10	764.5	80.2	26.8	52	E	1.9	0.85	.....	..	...	.....	.....	0.276	7.0	Clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.08	687.8	.....	.....	79.3	26.3	60	E	7.3	3.28	.....	.....	.....	.....	.....	0.059	1.5	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.71	703.8	29.72	754.8	104.4	40.2	18	E	12.0	5.35	.....	0	5	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.78	756.5	29.93	760.1	93.4	34.1	38	ENE	4 6	2.06	.....	.....	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.95	735.4	29.80	756.9	83.3	28.5	58	SW	14.2	6.33	.....	7	0	.....	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.91	759.7	29.97	761.4	80.2	26.8	86	ESE	8.9	4.0	.....	1cs	4k;8k	.....	SE	0.780	19.8	Fair	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	758.0	29.94	760.4	75.2	24.0	72	WSW	14.5	6.5	.....	3	6	SW	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.97	761.2	30.06	763.5	81.7	27.6	84	S	0	0	.....	5s	4k	S	S	0.049	1.25	Cloudy	Leonardo de Tejada, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.07	763.7	30.11	764.7	72.0	22.2	.....	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	30.07	763.6	30.11	764.9	69.4	20.8	53	NE	.....	.....	7	.....	5	.....	.....	0	0	.....	
Hernosand	30.00	762.1	30.06	763 4	80.2	26.8	38	NE	.....	.....	4	.....	4	.....	.....	0	0	.....	
Stockholm	29.89	759.1	30.07	763.6	73.4	23.0	54	ESE	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.94	760.5	30.00	762.0	62.2	16.8	81	NNE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.95	760.8	30.03	762.7	78.4	25.8	31	NNE	9.4	4.2	.....	.....	7	.....	.....	0	0	.....	Dr. Hildebrandsson.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.69	728.7	30.08	763.9	68.0	20.0	46	NE	.....	.....	5	.....	2	.....	.....	0	0	Clear	The Observatory.
Zurich	28.52	724.5	30.13	765.4	62.4	16.9	73	W	.....	.....	.....	.....	7	.....	.....	0.346	8.8	Rainy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.8 mm.; Thermometer, —2.6 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.80	757.0	79.2	26.2	44	ENE	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.88	759.0	83.7	28.7	.....	SW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.56	750.8	29.67	753.6	91.4	33.0	54	WSW	.....	.....	3	.....	5k	....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.91	759.7	29.98	761.5	69.9	21.1	79	Calm	0	0	.....	1c	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.60	751.8	29.90	759.4	68	20.0	.....	SE	4	1.8	.....	.....	10s	.....	SE	0.01	0.3	Cloudy	W. R. Bigg.
*Chatham, N B	29.98	761.5	30.04	763.0	63	17.2	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	30.01	762.2	30.05	763.3	66	18.9	71	SW	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E
Cornwall, Ontario	29.70	754.4	29.89	759.2	64.0	17.8	93	NE	.....	.....	1	.....	10n	.....	.....	0.052	1.32	Raining	James Smith, M. A.
Dalhousie, N. B	29.83	757.7	29.99	761.7	70	21.1	80	W	.....	.....	2	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.98	761.5	30.03	762.7	53.2	11.8	100	.....	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.95	760.7	29.97	761.2	58	14.4	85	SW	5	2.2	.....	5c	5ks	E	Calm	0	0	Fair	J. McWilliams.
Fredericton, N. B	30.02	762.5	30.08	764.0	62.1	16.7	82	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.02	737.1	29.82	757.4	60	15.6	94	W	4	1.8	.....	0	Haze	.....	W	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	29.86	758.4	29.93	760.2	64	17.8	100	Calm	.....	.....	0	.....	0	.....	.....	Inap.	Inap.	Foggy	James Grant.
*Halifax, N. S	29.89	759.2	30.02	762.5	63	17.2	84	NE	4	1.8	.....	5clc	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.59	751.6	29.95	760.7	66.3	19.1	83	W	.....	.....	2	3c	0	NW	.....	0.01	0.3	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	30.07	763.8	30.09	764.3	61	16.1	61	SW	.....	.....	2	0	0	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.92	762.0	66	18.9	93	NE	4	1.8	.....	.....	10ks	.....	NE	0.02	0.5	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.03	762.7	30.06	763.5	65.2	18.4	.....	SW	4	1.8	.....	4c	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.75	755.6	29.95	760.7	65	18.3	78	S	7	3.1	.....	.....	10s	.....	.....	0.03	0.8	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.24	742.7	29.91	759.7	66	18.9	99	W	2	0.9	.....	.....	10n	.....	S	.....	.....	Light rain	Rev. R. Mosley.
Peterboro, Ontario	29.18	741.2	29.90	759.4	68.2	20.1	87	Calm	.....	.....	0	.....	10n	.....	.....	0.05	1.3	Cloudy	J. F. Jeffers, B. A.
Port Dover, Ontario	29.27	743.4	29.94	760.5	66	18.9	89	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	H. Morgan.
Port Hastings, N. S	29.95	760.7	30.00	762.0	62.4	16.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.91	760.5	64	17.8	98	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.69	754.1	30.00	762.0	65	18.3	78	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.48	748.8	29.92	760.0	65	18.3	84	E	3	1.3	.....	2c	2s	W	SE	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.04	763.0	60	15.6	88	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.90	759.4	30.07	763.8	60	15.6	82	N	5	2.2	.....	0	6k	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.22	742 2	29.91	759.7	66	18.9	90	SW	11	4.9	.....	.....	10ks	.....	SW	0.62	15.7	Cloudy	K. Stewart.
Stayner, Ontario	29.13	739.9	29.87	758.7	71	21.7	90	SE	1	0.4	.....	.....	10n	.....	NW	0.12	3.0	Light rain	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.04	763.0	30.07	763.8	66	18.9	76	SW	2	0.9	.....	2ck	0	NW	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.56	750.8	29.93	760.2	68	20.0	91	NE	1	0.4	.....	5ck	5ks	W	W	Inap.	Inap.	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	70.0	21.1	75	SW	.....	.....	.....	1c	1s	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,162 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.68	753.9	29.90	759.4	68	20.0	90	S	10	4.5	.....	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Alpena, Michigan	29.29	744.0	29.91	759.7	61	16.1	94	SW	4	1.8	.....	.....	10s	.....	Calm	0.08	0.8	Threatening	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	65	18.3	94	NE	10	4.5	.....	.....	10s	.....	NE	2.49	63.2	Cloudy	
Augusta, Georgia	29.87	758.7	30.05	763.3	84	28.9	70	S	2	0.9	.....	5ck	0	W	.....	0.04	1.0	Fair	
Baltimore, Maryland	29.90	759.4	29.94	760.5	75	23.9	90	E	5	2.2	.....	.....	10s	.....	NE	0.91	23.1	Cloudy	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	63	17.2	94	NE	7	3.1	.....	.....	10s	.....	Calm	1.34	34.0	Cloudy	
Bismarck, Dakota	28.04	712.2	29.89	759.2	63	17.2	72	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
BoiseCity, Idaho	27.13	689.1	30.01	762.2	59	15.0	43	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.84	757.9	29.99	761.7	58	14.4	94	NE	12	5.4	.....	.....	10s	.....	NE	1.29	32.8	Cloudy	
Brackettville, Texas	28.88	733.5	29.87	758.7	77	25.0	91	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.87	733.3	29.83	757.7	60	15.6	100	W	6	2.7	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
Brownsville, Texas	29.94	760.5	30.00	762.0	82	27.8	87	Calm	0	0	.....	0	0	.....	.....	0.03	0.8	Clear	
Buffalo, New York	29.22	742.2	29.89	759.2	67	19.4	89	W	2	0.9	.....	0	2ks	.....	W	Inap.	Inap.	Fair	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.70	754.4	29.95	760.7	64	17.8	78	S	4	1.8	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Cairo, Illinois	29.64	752.8	30.01	762.2	83	28.3	75	SW	6	2.7	.....	1k	0	W	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	58	NE	.....	.....	1	0	2s	.....	Calm	0	0	Fair	
Camp Grant, Arizona	25.26	641.6	30.06	763.5	75	23.9	56	E	.....	.....	1	.....	10s	.....	E	0	0	Cloudy	
Camp Verde, Arizona	26.74	679.2	30.23	767.8	82	27.8	36	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.27	692.6	29.94	760.5	55	12.8	87	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.02	762.5	80	26.7	82	W	22	9.8	.....	.....	10s	.....	W	1.66	42.2	Cloudy	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	77	25.0	91	SW	10	4.5	.....	.....	10s	.....	SW	0.07	1.8	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.03	762.7	81	27.2	87	SW	28	12.5	.....	.....	10ks	.....	SW	0.06	1.5	Cloudy	
Cape May, New Jersey	29.95	760.7	29.98	761.5	67	19.4	90	NE	12	5.4	.....	.....	10s	.....	NE	0.79	20.1	Cloudy	
Castroville, Texas	29.24	742.7	29.92	760.0	80	26.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.03	762.7	30.10	764.5	83	28.3	87	SW	9	4.0	.....	.....	10s	.....	SW	0.31	7.9	Threatening	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	54	12.2	43	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.18	741.2	29.84	757.9	74	23.3	81	S	8	3.6	.....	10k	0	SW	.....	0	0	Cloudy	
Cincinnati Ohio	29.30	744.2	29.92	760.0	77	25.0	73	S	3	1.3	.....	4k	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.23	74?.4	29.92	760.0	70	21.1	80	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.13	739.9	29.93	760.2	71	21.7	85	S	2	0.9	.....	2c	Haze	Calm	Calm	0	0	Fair	
Concno, Texas	28.14	714.7	29.74	755.4	74	23.3	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.56	750.8	30.00	762.0	79	26.1	95	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.28	743.7	29.89	759.2	73	22.8	81	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.23	742.4	29.98	761.5	81	27.2	87	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.81	630.2	30.03	762.7	65	18.3	35	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Detroit, Michigan	29.26	743.2	29.89	759.2	67	19.4	89	W	3	1.3	.....	1cs	0	Calm	.....	0	0	Clear	
Dodge City, Kansas	27.40	696.0	29.58	751.3	71	21.7	80	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.18	741.2	29.84	757.9	73	22.8	72	NW	1	0.4	.....	0	Haze	.....	Calm	0	0	Hazy	
Duluth, Minnesota	29.11	739.4	29.75	755.6	66	18.9	89	NW	1	0.4	.....	5k	0	W	.....	0.77	19.6	Fair	
Eagle Pass, Texas	29.25	742.9	29.95	760.7	79	26.1	91	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Eastport, Maine	29.96	761.0	30.02	762.5	58	14.4	82	NE	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	80	26.7	61	Calm	0	0	.....	0	2s	.....	E	0.05	1.3	Fair	
Erie, Pennsylvania	29.23	742.4	29.91	759.7	71	21.7	80	SW	5	2.2	.....	5ck	0	W	.....	0.05	1.3	Fair	
Escanaba, Michigan	29.15	740.4	29.77	756.1	72	22.2	80	S	7	3.1	.....	.....	10s	.....	S	0.07	1.8	Cloudy	
Florence, Arizona	.....	.....	.....	.....	85	29.4	47	Calm	.....	.....	0	2ck	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	25.62	650.7	29.69	754.1	71	21.7	69	S	2	0.9	.....	8c	0	S	.....	0	0	Fair	
Fort Davis, Texas	25.30	642.6	30.26	768.6	66	18.9	84	NW	2	0.9	.....	2c	0	W	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.46	748.3	29.97	761.2	80	26.7	82	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.74	730.0	29.95	760.7	77	25.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.55	758.2	81	27.2	78	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Light fog	
Galveston, Texas	29.98	761.5	30.02	762.5	84	28.9	83	NW	8	3.6	.....	5k	5ks	NE	E	0	0	Cloudy	
Grand Haven, Michigan	29.20	741.7	29.81	757.2	71	21.7	85	S	16	7.2	.....	2k	5s	W	Calm	0	0	Fair	
Indianapolis, Indiana	29.15	740.4	29.88	758.9	77	25.0	73	S	5	2.2	.....	2k	2s	SW	SW	0	0	Fair	
Indianola, Texas	29.99	761.7	30.02	762.5	83	28.3	87	S	6	2.7	.....	0	8ks	.....	SE	0	0	Threatening	
Jacksboro, Texas	28.80	731.5	29.86	758.4	83	28.3	71	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.10	764.5	83	28.3	79	S	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.28	743.7	29.86	758.4	77	25.0	69	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.2	84	28.9	75	SE	16	7.2	.....	6c;k	0	Calm;8E	.....	0.27	6.9	Fair	
Kittyhawk, North Carolina	29.95	760.7	29.97	761.2	79	26.1	91	W	14	6.3	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
Knoxville, Tennessee	29.09	738.9	30.06	763.5	73	22.8	95	Calm	0	0	.....	.....	Fog	.....	Calm	0.12	3.0	Dense fog	
La Crosse, Wisconsin	29.09	738.9	29.78	756.4	69	20.6	85	S	4	1.8	.....	2c	0	S	.....	0.08	2.0	Clear	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	73	22.8	81	Calm	0	0	.....	0	5s	.....	Calm	0.04	1.0	Fair	
Laredo, Texas	29.67	751.1	29.90	759.4	80	26.7	87	SE	3	1.3	.....	10ck	0	Calm	.....	0	0	Cloudy	
Lead City, Dakota	24.87	631.7	.....	.....	56	13.3	94	SE	1	0.4	.....	10k	0	SE	.....	0	0	Cloudy	
Leavenworth, Kansas	29.10	739.1	29.91	759.7	69	20.6	95	Calm	0	0	.....	.....	Fog	.....	Calm	0.64	16.3	Foggy	
Los Angeles, California	29.48	748.8	29.81	757.2	66	18.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.42	747.3	29.94	760.5	79	26.1	70	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.30	744.2	29.94	760.5	82	27.8	67	W	1	0.4	.....	0	0	.....	.....	0.71	18.0	Clear	
Marquette, Michigan	29.06	738.1	29.72	754.9	67	19.4	84	S	8	3.6	.....	.....	10s	.....	SW	0.12	3.0	Cloudy	
Mason, Texas	28.38	720.8	30.02	762.5	79	26.1	82	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.74	755.4	30.04	763.0	84	28.9	75	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.10	739.1	29.78	756.4	72	22.2	85	W	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Mobile, Alabama	30.01	762.2	30.05	763.3	84	28.9	83	E	4	1.8	.....	5c	5s;ks	Calm	Calm	Inap	Inap.	Cloudy	
Montgomery, Alabama	29.84	757.9	30.08	763.5	80	26.7	82	Calm	0	0	.....	.....	10s	.....	Calm	0.86	21.8	Cloudy	
Morgantown, West Virginia	28.94	735.1	29.95	760.7	73	22.8	85	Calm	0	0	.....	0	8s	.....	SW	0.46	11.7	Fair	
Mt. Washington, N. H.	23.84	606.0	30.22	767.8	47	8.3	92	E	7	3.1	.....	8ck	10ks	W	E	0.27	6.9	Cloudy	
Nashville, Tennessee	29.32	749.8	30.03	762.7	79	26.1	78	Calm	0	0	.....	Haze	0	Calm	.....	0	0	Clear	
New Haven, Connecticut	29.87	758.7	29.98	761.5	63	17.2	89	NE	5	2.2	.....	.....	10ks	.....	.....	0.28	7.1	Cloudy	
New London, Connecticut	29.94	760.5	29.99	761.7	64	17.8	83	NE	5	2.2	.....	5k	2s	NE	NE	0.14	3.6	Fair	
New Orleans, Louisiana	29.96	761.0	30.02	762.5	83	28.3	83	NE	5	2.2	.....	3k	0	E	.....	0.01	0.3	Fair	
Newport, Rhode Island	29.92	760.0	29.97	761.2	62	16.7	83	NE	9	4.0	.....	.....	10ks	.....	NE	0.88	22.4	Threatening	
New York, New York	29.82	757.4	30.00	762.0	63	17.2	88	NE	10	4.5	.....	.....	10s	.....	NE	0 10	2.5	Cloudy	
Norfolk, Virginia	29.92	760.0	29.98	761.5	79	26.1	87	SW	1	0.4	.....	10cs	0	NW	.....	0.04	1.0	Cloudy	
North Platte, Nebraska	27.04	686.8	29.48	748.8	69	20.6	90	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.03	760.2	29.97	761.2	51	10.6	93	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.82	732.0	29.54	757.9	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.59	751.6	29.90	759.4	68	20.0	95	W	6	2.7	.....	.....	10s	.....	SW	Inap	Inap.	Cloudy	
Pembina, Dakota	28.99	736.3	29.80	756.9	56	13.3	94	W	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.93	760.2	29.98	761.5	65	18.3	89	SE	5	2.2	.....	.....	10s	.....	E	0.25	6.3	Cloudy	
Phœnix, Arizona	28.61	726.7	.....	.....	92	33.3	57	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.12	460.2	30.33	770.4	44	6.7	37	SW	10	4.5	.....	.....	0	.....	.....	0	0	Clear	
Ploche, Nevada	24.10	612.1	29.57	758.7	63	20.0	14	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.16	740.7	29.94	760.5	67	19.4	95	NW	2	0.9	.....	10k	Fog	NW	Calm	0.08	2.0	Cloudy	
Port Huron, Michigan	29.25	742.9	29.88	758.9	69	20.6	85	SW	4	1.8	.....	2c	0	W	.....	0	0	Clear	
Portland, Maine	29.94	760.5	29.99	761.7	58	14.4	94	E	9	4.0	.....	.....	10s	.....	NE	0.29	7.4	Cloudy	
Portland, Oregon	29.92	760.0	30.02	762.5	55	12.8	87	NW	1	0.4	.....	0	1ks	.....	NW	0	0	Clear	

UNITED STATES SERIES.—CONTINUED

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10	Lower. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Prescott, Arizona	24.85	631.2	30.21	767.3	72	22.2	34	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.03	762.7	30.04	763.0	84	28.9	75	E	14	6.3	.....	5cs	0	NE	.....	0	0	Fair	
Red Bluff, California	29.42	747.3	29.76	755.9	72	22.2	42	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.30	744.2	29.69	759.2	67	19.4	89	W	8	3.6	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Roseburg, Oregon	29.41	747.0	29.97	761.2	53.5	11.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.71	754.6	29.79	756.7	61	16.1	69	S	10	4.5	.....	6c	0	Calm	.....	0	0	Fair	
St. Louis, Missouri	29.39	746.5	29.92	760.0	79	26.1	74	W	12	5 4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
St. Marks, Florida	30.06	763.5	30.08	764.0	79	26.1	91	Calm	0	0	.....	9ck	2s	Calm	Calm	0	0	Cloudy	
St. Paul, Minnesota	28.97	735.8	29.76	755.9	65	18.3	89	SW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	67	19.4	25	NE	4	1.8	.....	2c	0	W	.....	0	0	Clear	
San Antonio, Texas	29.31	744.5	29.87	758.7	77	25.0	91	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.76	755.9	29.83	757.7	65	18.3	89	N	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.28	743.7	29.92	760.0	69	20.6	85	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	63	17.2	89	NE	10	4.5	.....	.....	10ks	.....	NE	0 30	7.6	Cloudy	
San Francisco, California	29.82	757.4	29.88	758.9	53	11.7	90	SW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	28.48	696.4	30.02	762.5	60	15.6	34	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.99	761.7	30.08	764.0	87	30.6	76	SW	8	3.6	.....	5ck	2ks	W	SW	0	0	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	82	27.8	91	Calm	0	0	.....	Haze	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.40	619.8	30.36	771.1	66	18 3	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Smithville, North Carolina	30.04	763.0	30.07	763.8	78	25.6	95	SW	12	5.4	.....	.....	10n	.....	SW	0.38	9.7	Light rain	
Springfield, Massachusetts	29.80	756.9	29.92	760.0	63	17.2	78	NE	5	2.2	.....	.....	10ks	.....	NE	0.71	18.0	Cloudy	
Stockton, Texas	27.01	686.0	30.01	762.2	67	19.4	37	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass.	29.94	760.5	29 94	760.5	58	14.4	94	NE	12	5.4	.....	.....	10s	.....	NE	0.98	24.9	Cloudy	
Toledo, Ohio,	29.25	742.9	29.89	759.2	73	22.8	81	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.34	694.4	29.89	759.2	88	31.1	55	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	30.05	763.3	30.08	764.0	82	27.8	79	SW	8	3.6	.....	0	8s	.....	SW	0	0	Threatening	
Umatilla, Oregon	29.58	750.8	.....	.....	60	15.6	48	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy	
Vicksburg, Mississippi	29.80	756.9	30.04	763.0	85	29.4	79	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.37	619.0	29.85	758.2	58	14.4	42	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.45	748.0	29.81	757.2	66	18.9	63	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.86	758.4	29.90	761.0	79	26.1	74	NE	4	1.8	.....	Haze	Fog	W	NE	2.64	67.1	Hazy	
Wickenburg, Arizona	.....	.....	.....	.....	78	25.6	65	E	.....	.....	1	2cs	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.96	761.0	30.03	762.7	81	27.2	91	SW	8	3.6	.....	0	8s	.....	SW	0.01	0.3	Fair	
Winnemucca, Nevada	29.68	651.0	29.99	761.7	67	18.9	31	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass.	29.91	759.7	29.96	761.0	63	17.2	88	N	5	2.2	.....	.....	10ks	.....	NE	1.42	36.1	Cloudy	
Yankton, Dakota	28.62	726.9	29.86	758.4	65	18.3	89	S	6	2.7	.....	5cs	5s	W	W	Inap.	Inap.	Threatening	
Yuma, Arizona	29.63	752.6	29.79	756.7	84	28.9	74	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.60	751.8	29.66	753.4	55.5	13.1	100	NW	15	6.7	.....	.....	10n	.....	NW	1.50	38.1	Raining	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.92	760.0	29.94	760.5	82	27.8	83	SE	9.6	4.3	.....	2cs	2ks	SE	.....	0.57	14.5	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Gall.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	81	27.2	82	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	F. M. Everett.
Navassa, W. I.	29.94	760.5	30.02	762.5	84	28.9	.....	NE	9.6	4.3	.....	.....	.....	.....	.....	Blank	Blank	Fair	C. J. Hering.
Paramaribo, D. Guiana, S. A.	30.03	762.7	30.03	762.7	77	25.0	79	E	.....	.....	1	5k	6ks	E	.....	0	0	⅛ cloudy	Dr. H. Groot.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herr.n.
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	67.0	19.4	80	Calm	0	0	.....	5cs	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 metres; Boise City, 2,869 (?) ft., or 874.4 (?) m., Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,600 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)60 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,822 (?) ft. or 1,469.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,898 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Mare Island, Cal.	29.90	759.4	56	13.3	53	11.7	100	SW	24	10.7	.....	.....	10	.....	SW	.....	.....	.....	.....	Overcast.	
Navy Yard, Pensacola, Fla.	30.20	767.1	83	28.3	83	28.3	87	N	1	0.4	.....	.....	5	.....	SW	0	0	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.98	761.5	67	19.4	58	14.4	88	NE	1	0.4	.....	.....	10	.....	.....	0.6	15.	.....	.....	Threatening	
Naval Hospital, Yokohama, Japan	29.70*	754.4*	82	27.8	81	27.2	83	Calm	.....	.....	0	.....	Haze	.....	Calm	0	0	.....	.....	Clear.	
Adams, Pago-Pago	30.04	763.0	80	26.7	79	26.1	95	E	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Pleasant.	
Alliance, Havre, France	30.18‡	766.6‡	.....	.....	68	20.0	84	NNE	.....	.....	1	.....	8	.....	NNE	.....	.....	.....	.....	Hazy.	
Ashuelot, Nagasaki, Japan	29.95	760.7	83	28.3	82	27.8	96	SE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Misty.	
Alaska, Rio de Janeiro, Brazil	30.50	774.7	.....	.....	74	23.3	76	W	.....	.....	1	.....	8	.....	SE	0	0	Smooth	.....	D. clouds.	
Canonicus, New Orleans, La	30.05	763.3	58	14.4	83	28.3	96	SE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Colorado, New York, N. Y.	29.99‡	761.7‡	.....	.....	63	17.2	89	ENE	5	2.2	.....	.....	10	.....	E	0.16	4.1	.....	.....	Hazy.	
Constitution, Havre, France	30.26‡	768.6‡	.....	.....	67	19.4	89	NNE	.....	.....	3	.....	4	.....	ENE	.....	.....	.....	.....	Pleasant.	
Despatch, Prince's Islands, Sea of Marmora	29.77‡	756.1‡	.....	.....	75	23.9	77	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.	
Franklin, Norfolk, Va.	30.10	764.5	80	26.7	78	25.6	95	SW	3	1.3	.....	.....	10	.....	WSW	0.9	23.	.....	.....	Cloudy	
Gettysburg Villefranche, France	29.77‡	756.1‡	.....	.....	83	28.3	96	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.	
Hartford, Rio de Janeiro, Brazil	30.37	771.4	.....	.....	72	22.2	80	ENE	10.8	4.8	.....	.....	2	.....	ENE	0	0	.....	.....	Clear.	
Marion, Villefranche, France	29.87	758.7	78	25.6	79	26.1	74	SSW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.	
Michigan, Detroit, Mich.	29.48	748.8	74	23.3	78	22.8	76	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy, Yokohama, Japan	29.65‡	753.1‡	.....	.....	85	29.4	83	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
New Hampshire, Port Royal, S. C.	30.29†	769.4†	.....	.....	82	27.8	83	SW	20	8.9	.....	.....	8	.....	S	0	0	.....	.....	Cloudy	
Onward, Callao, Peru	30.10†	764 5†	.....	.....	60	15.6	82	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Foggy	
Palos, Tientsin, China	29.76	755 9	87	30.6	81	27.2	86	SE	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....		
Pensacola, Mare Island, California	29.94	760.5	60	15.6	53	11.7	93	SSW	12	5.4	.....	.....	10	.....	SW	.....	.....	.....	.....	Foggy	
Plymouth, New York, N. Y.	29.98‡	761.5‡	.....	.....	64	17.8	94	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Misty.	
Ranger, Hong-Kong, China	29.78*	756.4*	.....	.....	85	29.4	83	S	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	D. clouds.	
Rio Bravo, Brownsville, Texas	29.97	761.2	80	26.7	80	26.7	91	SE	.....	.....	1	.....	6	.....	Calm	.....	.....	.....	.....	Cloudy.	
Santee, Annapolis, Md.	29.91‡	759.7‡	.....	.....	76	24.4	95	SE	.....	.....	1	.....	10	.....	NE	1.37	34.8	.....	.....	Cloudy.	
St. Louis, League Island, Pa	29.96	761.0	71	21.7	67	19.4	84	NE	4	1.8	.....	.....	10	.....	NE	0.29	7.4	.....	.....	Cloudy	
Supply, Havre, France	30.35	770.9	67	19.4	68	20.0	70	E	.....	.....	3	.....	5	.....	E	.....	.....	.....	.....	Fair.	
Swatara, Boston, Mass.	30.00‡	762.0‡	.....	.....	62	16.7	88	NE	.....	.....	2	.....	10	.....	E	.....	.....	.....	.....	Misty.	
Trenton, N. 39° 26′, W. 9° 34′	29.90‡	759.4‡	.....	.....	73	22.8	76	NW	.....	.....	2	.....	5	.....	N;W	0	0	.....	.....	Fair.	
Tuscarora, Acapulco, Mexico	29.73	755.1	81	27.2	81	27.2	67	Calm	.....	.....	0	.....	8	.....	Calm	0	0	.....	.....	Fair.	
Vandalia, N. 35° 11′, E. 22° 11′	29.84‡	757.9‡	.....	.....	80	26.7	78	NW	.....	.....	4	.....	0	.....	.....	.....	.....	Mod'ate	NW	Clear.	
Wabash, Boston, Mass.	29.96‡	761.0‡	.....	.....	58	14.4	94	NE	6	2.7	.....	.....	10	.....	Calm	1.32	33.5	.....	.....	Light rain.	
Wyoming, N. 43° 56′, W. 54° 51′	30.09†	764.3†	.....	.....	62	16.7	94	SE	.....	.....	2	.....	10	.....	SE	.....	.....	Smooth	SE	Drizzling.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 34° 47′, E. 130° 54′		29.72*	754.9*	80	26.7	100	SSW			4		8		SW	0	Light	SW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 47° 00′, W. 124° 50′		30.15*	765.8*				NW			2		10				Smooth	NW	Overcast	Capt. Seabury.
S. S. City of Peking, N. 35° 42′, W. 176° 33′		30.40†	772.7†	72	22.2	100	ESE	7	3.1			4		ESE	0	Small	ESE	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 39° 20′, W. 124° 10′		29.83†	757.7†	56	13.3	81	NNW			6		8		SSE		Rough	NW	Foggy	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 26° 54′ W. 148° 10′		30.46‡	773.7‡	75	23.9	100	NE			8		5		ENE	Light	Very rough.	ENE	Squally	Capt. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic																			Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kenuedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andreessen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 48° 20′, W. 45° 50′		30.15	765.8	71.6	21.9	90	NE			5		10		NE			NE	Overcast	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Philadelphia, Pa		30.21*	767.3*	74	23.3	90	W			3		4		W	0			Partly cl'dy	Captain Sargent.
S. S. Ohio, Liverpool		30.25?	768.3?	76	24.4	77	W			3		4		W	0			Clear	Captain Morrison. Captain Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Disco Island		29.82*	757.4*	43.0	6.1	69	Calm			0		10s			0			Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 1, 1878.

7:33 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:8 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:20 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			
Nemours			29.93	760.2	79.9	26.6	76	WNW			2		8						Dr. Ollive.
Algiers			29.79	756.6	83.8	28.8	62	NNE			1		7			0.020	0.5	Very cloudy	Kesxuche.
La Calle			29.83	757.7	78.1	25.6	74	ENE			4		3			0	0	Very cloudy	Tourillere.
Tunis			29.86	758.5												0	0	Pretty fair.	Foufrede.
Sfax			29.93	760.2	86.0	30.0		NNE			1		0						Jacques.
Saida			29.98	761.5	89.4	31.9	30	NW			1		5			0	0	Clear	Gan.
Tebessa			29.89	759.2	94.1	34.5		SE			4		4			0	0	Cloudy	Herbin.
Geriville			29.97	761.2	87.8	31.0	26	WSW			6		8			0	0	Cloudy	Watrin.
Laghouat			29.97	761.1	99.3	37.4	21	Calm			0		2			0.039	1.0	Very cloudy	Brugnlaux.
Biskra			29.86	758.5	108.6	42.5	21	NNE			1		1			0	0	Fair	Bertrand.
																0.039	1.0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann. Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram																			
Cracow	29.24	742.3	29.77	756.2	71.4	21.9	40	NE			3		5			0	0		Prof. Ivan Stoan
Eperies	29.01	736.9	29.75	755.6	66.8	18.8	55	NE			2		7			0	0		Prof. Dr. Karlinski.
Gratz	28.81	731.7	29.66	753.4	61.5	16.4	60	N			2		10ns		S	0.173	4.40		Julius Mikolik.
Hermannstadt	28.62	727.0	29.83	757.6	67.3	19.6	58	NE			4		8			0	0		Andreas Rospini.
Kremtmünster	28.09	713.4	29.45	748.1	64.6	18.1	72	NNW			1		10			0.106	2.70		Prof. Reissenberg
Lemberg	28.61	726.8	29.95	760.6	56.1	13.4	91	NW			3		10			1.713	43.5		Prof. C. Wagner
Pola	28.54	725.0	29.84	760.3	56.8	13.8	93	NE			2		10			0.598	15.2		Dr. T. Stanecki.
Szathmar	29.71	754.7	29.82	757.4	76.6	24.8	48	WNW			3		8cs			0	0		I.R.Hydrographic Office
Szegedin	29.12	739.6	29.57	751.0	64.4	18.0	73	N			3		9			0.409	10.4		Johann Tamas, S. J.
Trieste																			Karl Stancel.
Vienna	29.75	755.6	29.85	758.2	81.3	27.4	35	SW			1		8			0.138	3.5	Thunder-storm	P. Busin.
	29.29	743.9	29.99	761.7	63.1	17.3	65	NW			3		0			0.766	19.2		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.69	728.7	30.15	765.9	68.9	20.5	38	ENE			4		1			0	0		Prof. M. Pasaau.
Brussels	30.00	762.0	30.20	767.0	67.5	19.7	67	NE			2		5		NE	0.016	0.40		Royal Observatory
Furnes	30.25	768.3	30.27	768.9	66.9	19.4	73	NNW			3		10			0	0		M. E. de Cae.
Maeseyck	30.11	764.7	30.23	767.9	67.3	19.6	68	NW			2		6			0.366	9.3		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

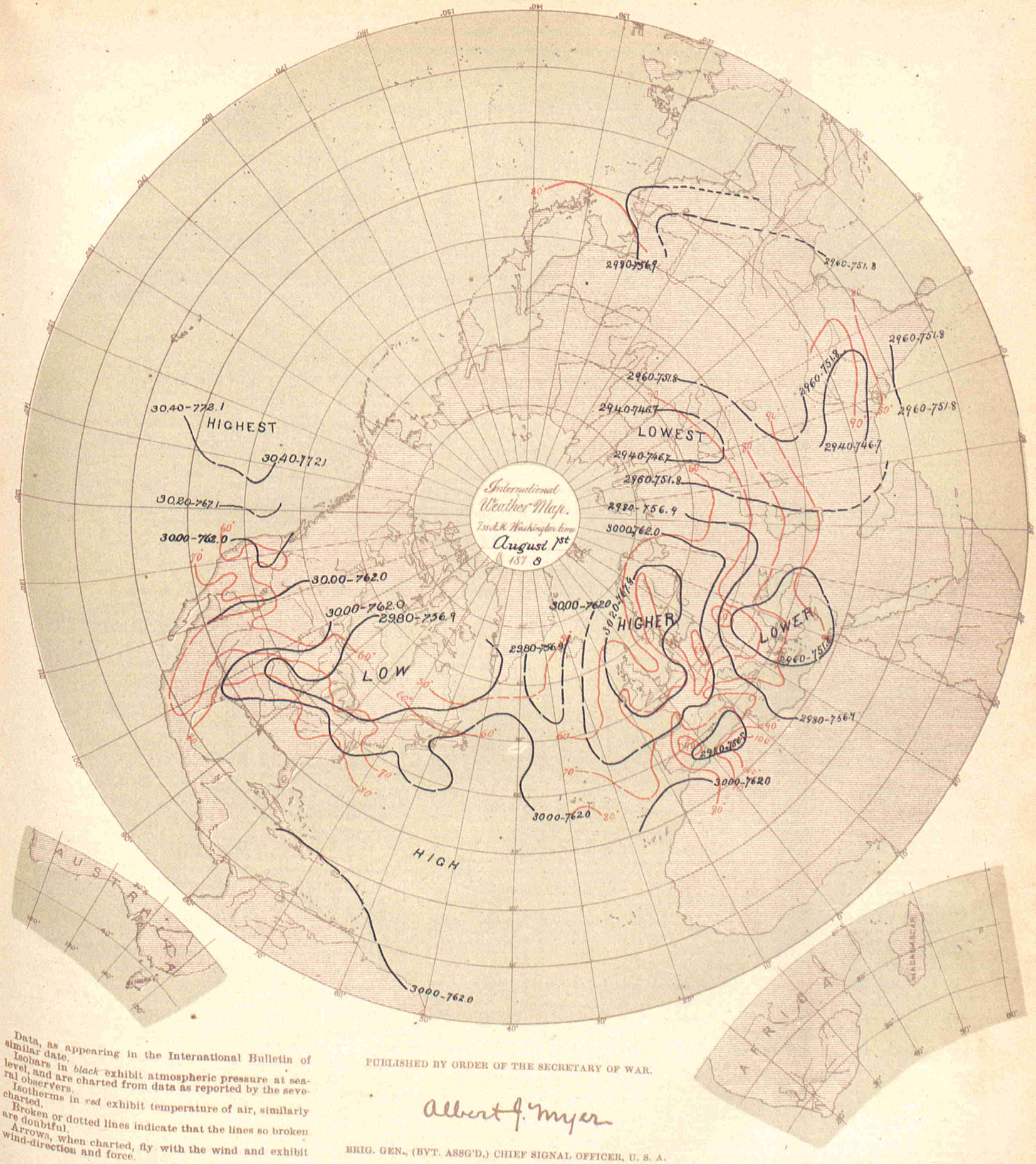
Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.27	768.8	30.36	771.1	63.0	17.2	.....	SE	11	4.9	.....	.....	1	.....	.....	0.010*	0.25*	Blue sky	W. Boswell.
Ardrossan	30.29	769.4	30.30	769.6	70	21.1	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Hazy	George Carrick.
Armagh, Observatory	.....	.....	30.31	769.9	70.7	21.5	.....	SE	5	2.2	.....	.....	1	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.27	768.8	69.1	20.6	.....	SE	5	2.2	.....	.....	0	.....	.....	.....	.....	Blue sky	John Hartnup.
Birr Castle, (Parsonstown)	30.05	763.3	30.24	768 1	73.1	22.8	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.90	759.4	30.30	769.6	66.0	18.9	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	85	29.4	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A. H. Todd. [H.C.
Cambridge, Observatory	.....	.....	30.28	769.1	66.0	18.9	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	John McLaren.
Cardington	.....	.....	30.31	769.9	66.0	18.9	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Q.M. Sergt. Magawran, R. E., for Alexander Watt. [Col. Martin, R. E.
Chatham, School M. E	30.12	765.0	30.25	768.3	65.2	18.4	.....	E	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	
Dartmoor	28.76	730.5	30.20	767.1	63.0	17.2	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	Gloomy	
Donaghadee	30.29	769.4	30.31	769 9	65	18.3	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Threatening	J. Mac Gowan.
Dover	30 22	767.6	30.25	768.3	64	17.8	.....	ENE	.....	.....	3	.....	7	.....	.....	.....	.....	¾ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	30.26	768.6	72.2	22.3	.....	S	2.4	1.1	.....	.....	.....	.....	.....	.....	.....	Blue sky	Thomas Mackereth.
Falmouth, Observatory	29.97	761.2	30.20	767.1	62.0	16.7	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.92	709.2	30.20	767.1	57.0	13.9	.....	SE	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	Pvt. G.Salmon, A.H.C.
Free Town, (Sierra Leone)	29.80	756.9	30.03	762.7	81.0	27.2	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Drizzling	
Galway, Queen's College	.....	.....	30.20	767.1	76	24.4	.....	E	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.86	758.4	29.91	759.7	80.0	26.7	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	30.09	764.3	30.30	769.6	71.9	22.2	.....	NNE	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	30.29	769.4	30.30	769.6	61	16.1	.....	NNE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	30.09	764.3	30.26	768.6	68.4	20.2	.....	ENE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.92	760.0	30.14	765.5	65	18.3	.....	NE	.....	.....	5	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.19	766.8	67	19.4	.....	NE	.....	.....	6	.....	3k	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.21	767.3	30.26	768.6	67	19.4	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.86	758.4	30.15	765.8	64.9	18.3	.....	ENE	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	30.26	768.6	64.0	17.8	.....	ENE	14	6.3	.....	.....	8	.....	.....	.....	.....	Hazy	The Staff.
Kingstown	30.28	769.1	30.31	769.9	64	17.8	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	George Mitchell.
Leicester, Museum	.....	.....	30.29	769.4	63.8	17.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.64	752.8	29.72	754.9	83	28.3	.....	NW	.....	.....	1	.....	1s	.....	.....	.....	.....	D. clouds	H. J. Becket, A. H. C.
Nairn	30.25	768.3	30.34	770.6	72	22.2	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.07	763.8	85.0	29.4	.....	SE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	30.11	764.8	30.30	769.6	67.2	19.6	.....	NE	.....	.....	3	.....	1k	.....	NNE	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.77	756.1	30.29	769.4	64.0	17.8	.....	ENE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.27	768.8	64	17.8	.....	ENE	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky	H.E. Bellamy.
Plymouth	30.13	765.3	30.20	767.1	64.6	18.1	.....	ENE	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	John Merrifield.
Roche's Point	30.21	767.3	30.24	768.1	67	19.4	.....	ESE	.....	.....	3	.....	5	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	30.08	764.0	30.25	768.3	63	17.2	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.37	771.4	65.1	18.4	.....	WSW	9	4.0	.....	.....	1	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.42	747.3	78.0	25.6	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Thunder-shower	Sergt. W. H. Lyne.
Sheffield	30.06	763.5	30.33	770.4	65.0	18.3	.....	E	.....	.....	1	.....	3	.....	.....	0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.26	768.6	30.29	769.4	76.5	24.7	47	SE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	C. Edith Redford.
Stonyhurst, Observatory	29.89	759.2	30.30	769.6	71.0	21.7	.....	NNE	.....	.....	1	.....	.....	.....	.....	.....	.....	Blue sky	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	30.26	768.6	30.29	769.4	65	18.3	.....	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.36	771.1	66	18.9	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Blue sky	John Trotter.
Truro, Royal Institution	.....	.....	30.19	766.8	72	22.2	.....	E	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	W. Newcombe.
Valencia, Observatory	.....	.....	30.30	769.6	73.0	22.8	.....	SE	18	8.0	.....	.....	5	.....	.....	.....	.....	Misty	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.92	760.0	55.0	12.8	86	NE	.....	.....	2	.....	7k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	72.9	22.7	57	E	9.0	4.0	.....	0	10	.....	.....	0	0	Overcast	C. Meldrum.
Melbourne, Observatory	29.93	760.2	30.02	762.5	45.0	7.2	85	SSE	9	4.0	.....	.....	7	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m. *Dew.

Marine Series. Vessels.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria																	Capt. W. Watson.
N. 40° 50′ W. 67° 35′	.....	.....	29.98	761.5	61	16.1	.....	NW	.....	.....	2	.....	10	.....	.....	5*	SSW	Misty	Capt. J. E. Mouland.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brig Catherine, N. 61° 12′, W. 48° 10′	.....	.....	29.80	756.9	44	6.7	.....	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. O. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 44° 50′, W. 55° 10′	.....	.....	30.03	762.7	59	15.0	.....	E	.....	.....	3	.....	8	.....	.....	2	SSW	Misty	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San Jose	26.27	667.2			68.9	20.5	91	NE			3	2c	6s		E	0	0		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.06	763.4	30.10	764.6	67.8	19.9	59	SE			2		5						
Fanöe	30.08	763.9	30.10	764.4	71.1	21.7	74	NW			4		5						
Godthaab, (Greenland)	29.67	753.5	29.71	754.6	42.1	5.6	91	S			2		10						
Stykkisholm, (Iceland)	29.81	757.2	29.85	758.3	51.8	11.0	77	SW			7		8					Raining	
Thorshavn, (Faröe)	30.22	767.6	30.26	768.5	60.6	15.9	80	SW			4		7					Raining	
Vestervig	29.99	761.7	30.16	766.0	74.1	23.4	55	NE			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.61	752.1	30.16	766.1	70.5	21.4	70	NE			4		2			0	0	Slightly cl'dy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.89	759.1	29.97	761.1	83.8	28.8	34	NNW			2		0			0	0	Very clear	M. Girand, Director.
Bar-sur-Seine	29.55	750.6	30.09	764.2	73.9	23.3	68	E			2		5n		E	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.90	759.4	30.18	766.5	71.1	21.7	55	ENE			2		5		ENE	0	0	Cloudy	Frere Eugene Marie, Director.
Besançon	29.24	742.6	30.10	764.6	72.5	22.5	56	SE			8		0			0	0	Clear	Normal School.
Bourg-en-Bresse, N. School	29.17	741.0	30.10	764.6	76.5	24.7	55	N			3		2k		NE	0	0	Slightly cl'dy	M. Marlot, Director.
Bourges, Normal School	29.50	749.3	30.03	762.7	74.5	23.6	50	NE			4		1		NE	0	0	Clear	A. Wagner, Director.
Brest, Naval Observatory	29.72	754.9	29.97	761.1	72.0	22.2	70	NE			5		1		NE	0	0		The Staff.
Carcassonne, Normal School	29.51	749.6	29 91	759.6	80.6	27	27	E			4		2	N		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.51	749.6	30.06	763.4	76.3	24.6	71				2		6		S	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch	29.81	757.2	30.11	764.9	78.1	25.6	49	N			3		2	N	N	0	0	Slightly cl'dy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.6	29.99	761.7	72.3	22.4	50	NE			1				W	0	0		Alluard, Director.
Commercy, Normal School	29.27	743.5	30.11	764.9	69.8	21	59	ENE			4		2c		ENE	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.86	733.1	30.00	762.1	83.7	28.7	22	W			2		2		SW	0	0	¾ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.93	760.3	30.14	765.5	79.2	26.2	36	E			4		2		E	0	0	Slightly cl'dy	Mouillot, Director.
Le Mans, Normal School	29.78	756.4	30.08	764.0	74.8	23.8	43	E			4		2		E	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.11	739.4	29.99	761.8	74.3	23.5	43	NE			6		0			0	0	Clear	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					73.4	23	57	NE			4		0			0	0	Clear	M. Galzin, Director.
Mirecourt, Normal School	29.07	738.3	30.10	764.4	66.2	19	72	NE			3		2k		SW	0	0	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	29.76	756.0	30.00	761.9	88.9	31.6	52	NE			1		0			0	0	Clear	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	28.95	735.2	29.96	761.0	78.4	25.8	54	N			1		c	N	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.20	640.0			48.6	9.2	84	E			3				E	0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.3	29.93	760.1	81.3	27.4	20	E			6		0			0	0	Clear	M. Giguel, Director.
Rouen, Normal School	30.08	764.0	30.16	766.1	75.7	24.3	50	NE			1		2		E	0	0	Slightly cl'dy	F. Lucard, Director.
Saint Malo (Port)			30.08	764.1	70.5	21.4	57	ESE			4		1		ESE	0	0	Clear	M. H. Hercouet.
Tarbes, Normal School	29.09	738.9	30.15	765.7	64.4	18	80	W			2		10			0.47	12.	Covered	T. Huguet, Director.
Villefranche, Normal School	29.44	747.7	30.12	765.0	79.3	26.3	75	NNW			3		2		N	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.8	29.90	759 5	79.2	26.2										0.20	5.		L'Abbé Marchès.
Lyons			30.07	763.6	73.9	23.3	48						1			0	0		L. Jays.
Marseilles, Observatory			29.94	760.4	78.6	25.9	34	WSW			2		1			0	0		The Staff.
Mont-Louis	24.93	633.1	30.24	768.1	70.2	21.2	44	SSE	9.3	4.17			4		SW	0	0		M. Cave.
Nice			29.96	760 9	77.7	25.4	75	NW			1		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.85	758.1	30.12	765.1	73.4	23.0	47	ENE			3		5		ENE	0	0		Marié Davy, Director
Perpignan			29.95	760.8	75.6	24.2	46	SE	7.4	3.33			4		NW	Inap.	Inap.		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.66	575.6			61.3	16.3		SW			1		10			0.461	11.7	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.97	761.1	30.13	765.3	74.1	23.4	49	ENE			3		5		ENE	0	0		E. Renou.
Toulouse, Observatory	29.24	742.6	29.96	760.9	77.9	25.5	26	SSE			3		8			0	0		The Staff.
Tours	29.77	756.2	29.97	761.2	75.7	24.3	44	ENE			4		0			0	0	Clear	C. Marquet.
Versailles, (near Paris)			30.14	765.5	76.3	24.6	44	E			3		6			0	0	Cloudy	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.68	753.8	29.70	754.4	82.2	27.9	95	Calm	0	0			0			0	0	Clear	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.16	740.7	30.00	762.1	59.7	15.4	82	NW			6		8	NW		0.39	10.	Thunder-storm.	Prof. Dr. Hoh.
Berlin	29.83	757.7	30.00	762.0	61.7	16.5	83	NE			1		7			0.500	12.7		Prof. Arndt.
Breslau	29.37	746.1	29.90	759.5	62.8	17.1	59	NNE			4		10			0.115	2.93		Royal University Obs'y
Carlsruhe	29.67	753.6	30.09	764.2	72.7	22.6	55	SW			2		1			0.299	7.6		Albert Sens.
Cassel	29.50	749.4	30.11	764.9	71.2	21.8	48	N			8		5	NE		0.249	6.32	Thunder-storm.	Dr. H. Möhl.
Crefeld	30.01	762.2	30.17	766.3	69.8	21.0	65	N			4		3k			0	0		Director Lose.
Emden	30.10	764.5	30.14	765.5	65.3	18.5	69	NNW			5		0			0	0		Prof. Prestel.
Frankfort on the Main	29.76	756.0	30.11	764.9	75.4	24.1		N			1		4			0	0		Physical Society.
Friedrichshafen	28.68	728.4	30.08	764.0	67.1	19.5	57	NE			3		1	NE		0.031	0.8		M. Wilhelm.
Hamburg	30.02	762.6	30.09	764.3	72.3	22.4	66	NNW			4		3k		NW	0	0	Clear	Captain F. Hegemann.
Kiel	30.07	763.6	30.08	764.0	71.4	21.9	66	NE			2		7			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.87	758.8	29.96	760.9	65.8	18.8	56	NE			4		6			0.059	1.5		Prof. E. Luther.
Köslin			29.98	761.4	63.7	17.6		NE			6		2			0.035	0.9		H. Müller.
Leipsic, Observatory	29.64	752.9	30.06	763.5	60.4	15.8	87	NW			2		10	NNW		Inap.	Inap.	Sprinkling.	Prof. Brühns.
Memel, Naval School	29.95	760.8	30.00	762.0	68.7	20.4	40	NE			4		7s						Reinbrecht and Skalweit.
Neufahrwasser	29.98	761.6	30.00	762.0	63.7	17.6	68	NNE			4		4			0.091	2.3		A. Lothes.
Posen	29.70	754.3	29.98	761.6	55.2	12.9	94	NNW			5		9			0.390	9.9		Dr. Magener.
Strassburg (in Alsace)	29.59	751.6	30.12	765.1	72.0	22.2	50	NNE			3		1			0.077	1.96		Astronomical Observatory.
Stuttgart	29.18	741.1	30.09	764.3	70.7	21.5	42	NW			3		3	E		0.169	4.3		Prof. Schoder.
Treves, (Trier)	29.49	749.0	30.01	762.3	74.3	23.5	41	E			4		2			0	0	Dense fog.	Prof. Flesch.
Weissenburg, (Bavaria)	28.56	725.5	30.03	762.7	69.3	20.7	43	NNW	4.0	1.8			6ck			0	0		Dr. Von Bebber.
Wustrow, Naval School	30.08	764.0	30.12	765.0	66.7	19.3	60	NE			4		3			0	0		E. F. Schütz.
German Naval Series.																			

Note.—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.08	738.7	29.45	748.1	87.4	30.8		W			5.5		k					Clear	Dr. J. F. J. Schmidt.

Note.—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Deesa	29.01	736.8	29.48	748.7	82.4	28.0	88	S				8		S		0.16	4.1	Raining	
Bombay	29.60	751.7	29.63	752.7	83.7	28.7	85	WSW	25	11.2		10	NW	SW		0.29	7.4	Overcast	
Poona	27.64	701.4	29.61	752.2	74.7	23.7	88	WNW				10		WNW		0.49	12.4	Overcast	
Lahore	28.68	728.5	29.40	746.6	93.1	33.9	63	Calm	6	2.7						0.68	17.3	Blue sky	
Belgaum	27.19	690.7	29.74	755.5	70.9	21.6	95	W	11	4.9		10		W		0.64	16.3	Overcast	
Bangalore																0	0		
Roorkee	28.52	724.4	29.38	746.4	91.8	33.2	59	E	2.5	1.1		2				0	0		
Agra	28.87	733.4	29.42	747.2	90.2	32.3	62	SE				4		W		0	0		
Trichinopoly																			
Nagpur	28.50	723.9	29.53	750.1	80.1	26.7	89	SW	6.7	3.0		10		E		1.64	41.7	Overcast	
Madras																			
Lucknow																			
Allahabad	29.12	739.5	29.42	747.2	90.2	32.3	78	Calm	1.2	0.5		7		W		0	0	D. clouds	
Patna	29.28	743.7	29.46	748.2	88.4	31.3	74	E	1.4	0.6		6	E	E		0	0	D. clouds	
Hazaribagh	27.48	698.0	29.45	747.9	84.0	28.9	78	E	4.5	2.0		8		E		0.06	1.5	Thunder-storm	
Cuttack	29.39	746.5	29.47	748.6	84.3	29.1	83	S	2.3	1.0		8				0.18	4.6	D. clouds	
Calcutta (Alipore)	29.46	748.3	29.48	748.9	82.7	28.2	96	ESE	1.0	0.4		9	E			0.30	7.6	Thunder;light'ng	
Goalpara	29.46	748.3	29.48	748.6	86.4	30.2	73	Calm	0.8	0.4		8				0.37	9.4	D. clouds	
Chittagong	29.10	739.0	29.48	748.6	86.4	30.2	73	WSW				9				0	0	Gloomy	
Sibsagar	29.43	747.6	29.52	749.9	84.9	29.4	85	W	2.8	1.2		10				0.04	1.0	D. clouds	
Rangoon	29.18	741.0	29.50	749.4	86.3	30.2	79												
Jubbulpore	28.12	714.2	29.47	748.5	74.8	26.6	81	NW	6.4	2.7		10				0.02	0.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.4	29.86	758.4	74.7	23.7	47	SW	1.3	0.6	.....	.....	10	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.75	755.7	29.86	758.4	79.5	26.4	33	W	6.8	2.8	.....	.....	5	NE	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.70	754 4	29.89	759.1	80.4	26.9	89	NW	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	29.36	745.7	29.85	758.3	83.8	28.8	40	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.01	736.8	29.58	750.0	81.0	27.2	91	E	.....	.....	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.04	712.2	29.88	758.9	75.9	24.4	21	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.71	754.6	29.92	760.0	78.4	25.8	58	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.72	754.8	29.86	758.9	80.6	27.0	32	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.58	751.2	29.87	758.8	80.1	26.7	26	NNW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.64	752.8	29.88	759.0	82.4	28.0	18	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.80	756.9	29.88	758.9	81.0	27.2	43	WSW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.84	757.9	29.89	759.1	75.7	24.3	54	NW	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.40	721.4	29.90	760.5	70.9	21.6	38	W	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.67	753.6	29.84	757 9	81.7	27.6	32	N	16.8	7.5	.....	.....	1	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.62	752.4	29.82	757.4	79.5	26.4	20	NNE	.....	.....	6	.....	4	NW	.....	0.039	1.0	.....	Prof. L. Palmieri.
Lecce	29.46	748.3	29.71	754 5	72.0	22.2	48	NNW	24.8	11.1	.....	.....	6	NW	.....	0.445	11.3	.....	Prof. C. De Giorgi.
Cagliari	29.70	754.4	29.89	759.1	82.2	27.9	46	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.86	733.0	29.70	754.4	82.0	27.8	67	SW	4.3	1.9	.....	.....	5	.....	.....	0.012	0.3	.....	Prof. F. D. Conti.
Palermo	29.58	751.2	29.82	757.5	77.7	25.4	56	N	13.7	6.1	.....	.....	7	N	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.09	754.1	29.77	756.1	79.7	26.5	62	NE	.....	.....	4	.....	3	NNE	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.29	743.9	29.84	758.0	76.6	24.8	31	NE	3.1	1.4	.....	.....	4	NE	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.56	750.8	29.76	755.9	79.7	26.5	84	S	17.6	7.88	.....	.....	10s	.....	SSW	7.460	189.23	Cloudy	
Tokei (Yeddo) Observatory	29.78	756.4	29.84	757.9	75.9	24.4	69	ENE	6.3	2.8	.....	.....	10n	.....	.....	0.016	0.38	Light rain	I. Arai, Director.
Tokei (Yeddo) University	29.74	755.4	29.84	757.8	75.2	24	95	E	5.6	2.5	.....	.....	10n	.....	.....	Inap.	Inap.	Raining	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.0	17.8	62	N	1.8	0.8	.....	6cs	0	SW	.....	0.13	3.2	½ cloudy	L. Castillo, A. E.
Guadalajara	25.13	638.2	30.10	764.5	56.3	13.5	86	N	0.9	0.4	.....	0	8	.....	NE	0.30	7.4	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandes
Leon	24.49	622.2	29.92	760.0	61.0	16.1	80	S	0.9	0.4	.....	1ck	0	NE	.....	0.10	2.5	Clear	Prof. M. Leal.
Mexico	23.18	588.4	30.19	766.9	55.9	13.3	90	Calm	0	0	.....	0	9k	.....	NW	0.10	2.7	Very cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pabellon, (Aguascalts)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Puebla	.....	.....	.....	.....	58.8	14.9	93	Calm	0	0	.....	0	10n	.....	.....	0.62	15.7	Foggy	M. V. de Leon, M. E
Toluca	23.40	594.3	30.06	763.5	54.1	12.3	74	E	2.4	1.1	.....	2cs	0	.....	.....	0	0	Clear	Prof. B. Gonzales.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
San Luis Potosi	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
Vera-Cruz	24.25	616.1	30.14	765.6	69.0	17.2	80	SSE	0.9	0.4	.....	0	2	.....	ESE	0	0	Clear	G. Barroeta, M. D.
Zacatecas	29.99	761.8	30.02	762.5	60.8	27.0	80	NW	2.7	1.2	.....	4ck	5sk	SE	.....	Inap.	Inap.	Very cloudy	Prof. J. Rossell.
Puebla, (Catholic Institute)	23.29	591.7	30.03	762.7	51.8	11.0	78	ENE	4.5	2.0	.....	3	5	NE	E	0	0	Cloudy	J. A. Bonilla, M. E.
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	2	W	W	0	0	½ cloudy	Prof. P. Spina, [M. M. D. D.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F. L. Paramo,
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
San Juan E. Michapam	28.36	720.4	29.99	761.6	78.8	26.0	75	SW	1.8	0.8	.....	0	10	.....	NE	0	0	Covered	R. Banda, C. E.
.....	29.75	755.8	29.90	759.5	79.2	26.2	.....	Calm	0	0	.....	0	10	.....	.....	0	0	Covered	Antonio Guerraly Guerra.

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,323 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.3 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 ,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.24	768.1	30.24	768.1	69.4	20.8	.....	N	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.16	766.1	30.22	767.5	64.6	18.1	.....	N	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.23	767.9	30.23	767.9	62.:	16.8	.....	N	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.22	767.6	30.22	767.6	70.9	21.6	72	NNE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.20	767.0	30.24	768.2	68.9	20.5	67	N	.....	.....	4	.....	2	.....	.....	0	0	Light cloudy	H. v d. Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature, Inches.	Barometer: Corrected for instrumental error and temperature, Millimeters.	Barometer: Reduced sea-level, Inches.	Barometer: Reduced sea-level, Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.23	767 8	30.28	769.2	65.5	18.6	71	NNW	13.7	6.1	.....	.....	0	.....	.....	0	0	.....	
Brônø	30.29	769.4	30.33	770.4	60.8	16.0	69	N	4	2	.....	.....	3	.....	.....	0	0	.....	
Christiania	30.06	763.5	30.20	767.0	80.6	27.0	40	SE	7	3	.....	.....	1	.....	.....	0	0	.....	
Tromsö	30.14	765.5	30.18	766.6	57.6	14.2	72	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.77	756.1	29.95	760.8	73.8	23.2	78	W	2.5	1.1	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.96	735.5	29.95	760.7	77.5	25.3	38	SSW	8.7	3.9	.....	.....	8	SW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.94	760.5	30.03	762.7	75.6	24.2	66	W	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.59	751.6	29.94	760.5	71.1	21.7	64	SSW	17.4	7.8	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.91	759.8	29.98	761.5	79.9	26.6	59	SW	1.3	0.6	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 39° 01′, W. 15° 44′	.....	.....	29.73	755.2	71.6	22	.....	NW	.....	.....	3	.....	9	.....	NW	6	WSW	D. clouds.....	A. M. de Sande, Com'd. A. D. Pedroso, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	29.75	755.6	79.9	26.6	.....	NNE	.....	.....	5	.....	2	.....	NNE	3	.....	Blue sky.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.06	763.5	71.6	22.0	.....	Calm	.....	.....	0	.....	10	.....	.....	1	.....	D. Clouds ...	A. J. de Mattos, Com'd't. J. T. d'Oliveria, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, N. 16° 41′, 5″ W. 23° 03′	.....	.....	30.07	763.7	82.2	27.9	.....	ENE	.....	.....	2	.....	1	.....	.....	3	S	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.98	761.5	73.6	23.1	.....	NW	.....	.....	2	.....	10	.....	E	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.41	747.0	29.82	757.4	64.8	18.2	51	NNE	13	6	.....	.....	6c;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.54	750.4	29.95	760.7	67.6	19.8	43	E	7	3	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.89	759.2	30.13	765.2	67.6	19.8	58	E	9	4	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.13	765.3	30.15	765.7	66.6	19.2	56	NNE	11	5	.....	.....	2cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.05	737.9	29.65	753.0	76.8	24.9	35	E	18	8	.....	.....	9kn	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.66	750.8	29.63	752.6	83.8	28.8	40	SE	13	6	.....	.....	5kn	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.66	753.3	29.69	753.8	76.3	24.6	80	ENE	11	5	.....	.....	4	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.47	748.6	30.02	762.5	67.5	19.7	72	WSW	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.63	750.0	29.72	755.0	77.7	25.4	51	ENE	18	8	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.09	764.8	30.11	764.8	65.3	18.5	77	NNW	9	4	.....	.....	0	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.86	720.8	29.71	754.6	82.8	28.2	47	S	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.81	757.2	29.73	755 1	79.2	26.2	49	N	11	5	.....	.....	8k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.56	750.7	29.82	757.3	65.5	18.6	69	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.75	730.2	29.07	753.7	58.3	14.6	80	NNE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.30	744.3	29.52	749.8	68.2	31.2	48	N	13	6	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.07	713.0	29.62	752.4	94.3	34.6	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	28.97	735.9	29.46	748.2	75.7	24.3	85	Calm	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.14	740.2	29.42	747.2	70.0	21.1	88	S	2	1	.....	.....	8	.....	.....	Blank	Blank	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.48	748.9	29.63	752 5	80.1	26.7	92	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	Raining.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 892 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.78	756.5	29.89	759.1	77.7	25.4	56	E	1.4	0.61	.....	3	8	S	.....	0	0	Misty..	Antonio Rave, Dir.
Bilbao, Met. Obs'y	29.77	756.1	29.82	757.5	81.9	27.7	66	NW	2.9	1.29	.....	2	3	W	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.95	684.6	.....	.....	70.7	21.5	83	W	10.2	4.57	.....	.....	8	.....	.....	.....	.....	Thunder-storm..	Domingo Martin y Perez.
Madrid, Royal Observatory	27.70	703.6	29.76	756.0	91.4	33.0	33	SW	17.2	7.67	.....	0	3	.....	.....	0	0	Clouds.....	The Staff.
Murcia, Met. Obs'y	29.77	756.1	29.91	759.7	89.6	32.0	41	ESE	3.8	1.69	.....	1	4	ENE	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.97	735.7	29.83	757 7	71.4	21.9	60	SW	6.0	2.67	.....	.....	7	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.00	761.9	30.06	763.6	78.3	25.7	80	Calm	0	0	.....	1cs	0	.....	.....	0.262	6.4	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.92	760.0	30.02	762.4	74.1	23.4	63	W	15.2	6.8	.....	0	1	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	81.0	27.2	91	SE	.....	.....	.....	8kn	2k	SE	SE	0.276	7.00	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.17	766.2	30.21	767.2	74.5	23.6	.....	N	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	30.23	767.9	30.28	769.2	72.0	22.2	56	SW	.....	.....	4	.....	9	.....	.....	0	0	.....	
Hernosand	30.23	767.8	30.28	769.1	70.5	21.4	45	S	.....	.....	2	.....	3	.....	.....	0.059	1.5	Raining	
Stockholm	30.04	763.0	30.22	767.5	65.5	18.3	51	E	.....	.....	6	.....	3	.....	.....	0	0	.....	
Wisby	30.02	762.6	30.08	764.1	66.9	19.4	47	E	.....	.....	6	.....	3	.....	.....	0.244	6.2	.....	
Sub-Series.																			
Upsala	30.15	765.7	30.22	767.6	66.7	19.3	46	ENE	10.3	4.6	.....	1	.....	.....	ENE	0	0	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	726.9	30.00	762.0	68.9	20.5	61	NNE	.....	.....	4	.....	2	.....	.....	0	0	Clear.	The Observatory.
Zurich	28.48	723.4	30.08	763.9	67.3	19.6	60	NE	.....	.....	2	.....	1	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.0 mm.; Thermometer, —2.0 cent.; Relative Humidity, +8 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.47	748.6	73.4	23.0	72	SE	4	2.0	.....	.....	10	.....	SW	1.843	46.8	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.77	756.2	74.7	23.7	.....	NW	.....	.....	3	.....	5	.....	.....	0.51	13.	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obsty	29.53	750.0	29.65	753.0	92.1	33 4	51	SW	.....	.....	3	.....	1k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.88	758.9	29.95	760.7	60.4	20.8	76	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.53	750.0	29.62	757.4	67	19.4	.....	Calm	0	0	.....	0	5s	.....	W	0.04	1.0	Cloudy	W. R. Bigg.
*Chatham, N B	29.92	760.0	29.98	761.5	65	18.3	86	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.95	760.7	29.99	761.7	66	18.9	84	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.63	752.6	29.81	757.2	68.2	20.1	90	E	.....	.....	2	.....	10s	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.80	756.9	29.96	761.0	66	18.9	85	W	.....	.....	2	.....	.....	.....	.....	0.065	1.65	Overcast	James Smith, M. A.
Esquimault, B. C	29.91	759.7	29.96	761.0	54.2	12.3	100	S	.....	.....	.....	9cs	0	.....	.....	0	0	Fine	H. A. Johnson.
*Father Point, Quebec	29.93	760.2	29.95	760.7	61	16.1	82	Calm	0	0	.....	5c	Haze	Calm	Calm	0	0	Cloudy	W. H. Bevis.
*Fredericton, N. B	29.94	760.5	30.00	762.0	65.0	18.3	73	NW	3	1.3	.....	1ck	0	.....	.....	0	0	Fair	J. McWilliams.
*Fort Garry Manitoba	29.06	738.1	29.85	758.2	62	16 7	94	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.75	730.2	29.81	757.2	67	19.4	84	SW	.....	.....	1	.....	10n	.....	.....	.....	.....	.....	H. J. Strang, M. A.
*Halifax, N. S	29.80	756.9	29.93	760.2	66	18.9	77	E	6	2.7	.....	.....	8ks	.....	SE	0	0	Overcast	James Grant.
Hamilton, Ontario	29.46	748.3	29.82	757.4	72.8	22.4	81	SW	.....	.....	3	7c	0	NW	.....	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F	30.07	763.8	30.10	764.5	61	16.1	50	S	.....	.....	1	0	0	.....	.....	0	0	Cloudy	Geo. Dickson, M. A.
*Kingston, Ontario	29.61	749.5	29.83	757.7	70	21.1	90	S	5	2.2	.....	.....	10ks	.....	S	0.16	4.1	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.97	761.2	30.02	762.5	65.0	18.3	.....	SW	3	1.3	.....	1k	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.66	753.1	29.85	758.2	66	18.9	89	W	2	0.9	.....	.....	10ks	.....	S	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.10	739.1	29.75	755.6	67	19.4	99	S	6	2.7	.....	2ck	2ks	SW	SW	0.06	1.5	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.07	738.4	29.78	756.4	71.2	21.8	88	N	.....	.....	1	6k	0	.....	.....	0.08	2.0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.17	740.9	29.83	757.7	72	22.2	90	SW	4	1.8	.....	10k	0	SW	.....	0	0	Cloudy	H. Morgan.
Port Hastings, N. S	29.92	760.0	29.97	761.2	64.4	18.0	.....	W	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.83	757.7	70	21.1	88	W	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.63	752.8	29.93	760.2	66	18.9	74	E	.....	.....	1	2ck	2ks	E	E	0	0	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.34	745.2	29.79	756.7	66	18.9	89	SE	8	3.6	.....	.....	10s	.....	SE	0	0	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.92	760.0	29.97	761.2	65	18.3	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.83	757.7	29.99	761.7	66	18.9	78	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.07	738.4	29.74	755.4	70	21.1	88	SW	12	5.4	.....	8ck	0	W	.....	0.27	6.9	Cloudy	K. Stewart.
Stayner, Ontario	28.99	736.3	29.73	755.1	70	21.1	76	W	3	1.3	.....	.....	10ks	.....	W	0.17	4.3	Clear	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Sydney, C. B	29.99	761.7	30.02	762.5	68	20.0	69	SW	2	0.9	.....	2c	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.44	747.8	29.81	757.2	68	20.0	93	SW	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy	T. C. Hill.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Orail.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.0	16.1	50	E	.....	.....	.....	.....	0	.....	.....	0	0	Fair	J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0-10	Low'r 0—10.	Direction. Upper. From—	Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.68	753.9	29.90	759.4	68	20.0	90	S	10	4.5			10s		Calm	0.19	4.8	Cloudy	
Alpena, Michigan	29.11	739.4	29.72	754.9	65	18.3	89	W	7	3.1		5cs	5s	Calm	W	0.36	9.1	Cloudy	
Atlantic City, New Jersey	29.95	760.7	29.97	761.2	70	21.1	95	S	8	3.6			10s		Calm	0	0	Cloudy	
Augusta, Georgia	29.93	760.2	30.10	764.5	85	29.4	79	S	1	0.4		2c	Haze	W		0.68	17.3	Fair	
Baltimore, Maryland	29.90	759.4	29.94	760.5	76	24.4	95	SE	1	0.4			Fog		Calm	0.10	2.5	Foggy	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	69	20.6	95	SE	11	4.9			10s		Calm	0.01	0.3	Cloudy	
Bismarck, Dakota	28.22	716.8	30.07	763.8	58	14.4	76	Calm	0	0		0	0			Inap.	Inap.	Clear	
BoiseCity, Idaho	27.06	687.3	29.94	760.5	64	17.8	38	Calm	0	0		0	0			0	0	Clear.	
Boston, Massachusetts	29.84	757.9	29.99	761.7	62	16.7	83	S	5	2.2			10s;sm'		SW;Calm	Inap.	Inap.	Cloudy	
Brackettville, Texas	28.85	732.8	29.83	757.7	78	25.6	86	SE	2	0.9		0	0			0	0	Clear	
Breckenridge, Minnesota	28.90	734.0	29.87	758.7	60	15.6	94	NW	4	1.8		0	0			0	0	Clear	
Brownsville, Texas	29.93	760.2	30.00	762.0	79	26.1	90	Calm	0	0		5c	0	Calm		0	0	Fair	
Buffalo, New York	29.14	740.1	29.80	756.9	73	22.8	90	S	6	2.7			10ks		W	0.20	5.1	Cloudy	
Burkes, Arizona					79	26.1	70	SE			1	2cs	5ks	Calm	SE	Inap	Inap.	Fair	
Burlington, Vermont	29.63	752.6	29.88	758 9	70	21.1	79	S	8	3.6			10s		S	0.11	2.8	Cloudy	
Cairo, Illinois	29.65	753.1	30.02	762.5	84	28.9	75	S	1	0.4		0	0			0	0	Clear	
Camp Apache, Arizona					65	18.3	73	Calm			0		10s		Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.29	642.4	30.09	764.8	68	20.0	60	Calm			0		10s		Calm	1.41	35.8	Cloudy	
Camp Verde, Arizona	26.80	681.7	30.29	769.4	72	22.2	80	Calm			0	0	5s		Calm	0.20	5.1	Fair	
Campo, California	27.40	696.0	29.97	761.2	65	18.3	87	Calm			0	8c	0	E		0	0	Cloudy	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	80	26.7	82	SW	9	4.0		5k	2ks	W	SW	0.14	3.6	Fair	
Cape Henry, Virginia	29.98	761 5	30.01	762.2	79	26.1	37	SW	12	5.4		0	0			0	0	Clear	
Cape Lookout, N. Carolina	30.03	762.7	30.05	763.3	81	27.2	83	W	21	9.4		8k	0	W		1.80	45.7	Cloudy	
Cape May, New Jersey	29.95	760.7	29.98	761.5	71	21.7	95	SE	15	6.7			10s		E	0	0	Cloudy	
Castroville, Texas	29.21	741.9	29.89	759.2	81	27.2	83	Calm	0	0		0	0			0	0	Clear	
Charleston, South Carolina	30 04	763.0	30.10	764.5	84	28.9	83	SW	3	1.3			10s		SW	1.75	44.5	Cloudy	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	60	15.6	82	SW	16	7.2			10s		SW	0	0	Cloudy	
Chicago, Illinois	29.14	740.1	29.79	756.7	73	22.8	67	S	8	3.6		8k	0	W		0.10	2.5	Fair	
Cincinnati Ohio	29.35	745.5	29.96	761.0	78	25.6	69	W	5	2.2		5k	4s	W	W	0	0	Cloudy	
Cleveland, Ohio	29.15	740.4	29.84	757.9	74	23.3	76	SW	8	3.6			10s		Calm	0.81	20.6	Cloudy	
Columbus, Ohio	29.11	739.4	29.90	759.4	74	23.3	85	S	3	1.3			10ks		S	0.05	1.3	Cloudy	
Concho, Texas	28.11	714.0	29.71	754.6	75	23.9	85	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.55	750.6	29.99	761.7	78	25.6	91	S	1	0.4		5cs	0	Calm		0	0	Fair	
Davenport, Iowa	29.25	742.9	29.86	758.4	72	22.2	85	Calm	0	0		1cs	0	Calm		0.23	5.8	Clear	
Denison, Texas	29.21	742.7	29.99	761.7	80	26.7	82	S	9	4.0		2c	0	SE		0	0	Fair	
Denver, Colorado	24.96	634.0	30.18	766.6	67	19.4	60	NE	3	1.3		0	0			0	0	Clear	
Des Moines, Iowa	29.03	737 3	29.86	758.4	76	24.4	72	Calm			0	0	Haze		Calm	0	0	Hazy	
Detroit, Michigan	29.17	740.9	29.80	756.9	69	20.6	75	W	2	0.9			10s		SW	2.48	63.0	Cloudy	
Dodge City, Kansas	27.39	695.7	29.54	750.3	77	25.0	73	SW	8	3.6		0	0			0	0	Clear	
Dubuque, Iowa	29.18	741.2	29.84	757.9	70	21.1	80	NW	1	0.4		0	Fog		Calm	0.24	6.1	Foggy	
Duluth, Minnesota	29.14	740.1	29 79	756.7	67	19.4	79	NW	16	7.2		0	0			0	0	Clear	
Eagle Pass, Texas	29.14	740.1	29.95	760.7	80	26.7	87	Calm	0	0		0	0			0	0	Clear	
Eastport, Maine	29.90	759.4	29.96	761.0	63	17.2	78	Calm	0	0		0	0			0	0	Fair	
El Paso, Texas					81	27.2	58	Calm	0	0		5ck	Haze	Calm	Calm	0	0	Clear	
Erie, Pennsylvania	29.16	740.7	29.83	757.7	76	24.4	60	SW	7	3.1		0	0			0	0	Fair	
Escanaba, Michigan	29.12	739.6	29.74	755.4	67	19.4	84	W	5	2.2		5ck	0	SW		0	0	Fair	
Florence, Arizona					78	25.6	86	Calm			0	5ck	0	W		0.41	10.4	Fair	
Fort Craig, New Mexico	25.70	652.8	29.76	755.9	66	18.9	71	Calm	0	0		5ck	5s	SE	SE	0.25	6.3	Cloudy	
Fort Davis, Texas	25.28	642.1	30.24	768.1	70	21.1	75	NW	4	1.8		0	0			0.01	0.3	Clear	
Fort Gibson, Indian Ter	29.45	748.0	29.96	761.0	81	27.2	74	E	5	2.2		2c	0	N		0	0	Fair	
Fort Griffin, Texas	28.73	729.7	29.94	760.5	77	25.0	86	Calm	0	0		0	0			0	0	Clear	
Fort St. Michael, Alaska												2cs	0	Calm		0	0	Clear	
Fort Sill, Indian Territory	28.78	731.0	29.83	757.7	80	26.7	82	SE	4	1.8		0	0			6	0	Clear	
Galveston, Texas	29.93	761.0	30.00	762.0	81	27.2	91	N	8	3.6		8k	0	E		0.98	24.9	Fair	
Grand Haven, Michigan	29.18	741.2	29.79	756.7	74	23.3	72	SW	16	7.2		5k	0	W		0	0	Fair	
Indianapolis, Indiana	29.30	744 2	30.04	763.0	72	22.2	71	SW	10	4.5			10n		Calm	0.34	8.6	Light rain	
Indianola, Texas	29.98	761.5	30.01	762.2	81	27.2	87	N	8	3.6		2k	5ks	Calm	NE	0.10	2.5	Cloudy	
Jacksboro, Texas	28.85	733.0	29.91	759.5	80	26.7	82	S	5	2.2		0	0			0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.09	764.3	85	29.4	76	S	5	2.2		0	0			0	0	Clear	
Keokuk, Iowa	29.22	742.2	29.80	756 9	72	22.2	85	E	4	1.8			10s		W	1.59	40.4	Cloudy	
Key West, Florida	30.03	762.7	30.06	763.5	84	28.9	79	SE	3	1.3		1k	2ks	SE	SE	0.05	1.3	Fair	
Kittyhawk, North Carolina	29.90	761.5	30.00	762.0	79	26.1	87	W	18	8.0		0	8s		W	0	0	Fair	
Knoxville, Tennessee	29.09	738.9	30.05	763.3	76	24.4	82	Calm	0	0		1c	0	NW		0	0	Clear	
La Crosse, Wisconsin	29.14	740.1	29.83	757.7	70	21.1	75	W	4	1.8		0	0			0	0	Clear	
La Mesilla, New Mexico	26.12	663.4	30.27	768.8	66	18.9	79	Calm	0	0		0	0			0	0	Clear	
Laredo, Texas	29.53	750.0	29.86	758.4	81	27.2	82	SE	2	0.9		0	0			0	0	Clear	
Lead City, Dakota	24.95	633.7	30.22	767.6	56	13.3	81	S	6	2.7		0	0			0	0	Clear	
Leavenworth, Kansas	29.06	738 1	29.85	758.2	78	25.6	82	NW	5	2.2		2ck	0	NW		0	0	Fair	
Los Angeles, California	29.58	751.3	29.91	759.7	64	17.8	83	E	3	1.3			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.48	748.8	30.02	762.5	76	24.4	77	N	10	4.5			10s		NW	0	0	Cloudy	
Lynchburg, Virginia	29.30	744.2	29.94	760.5	83	28.3	64	Calm	0	0		0	0			0	0	Clear	
Marquette, Michigan	29.03	737.3	29.88	758.9	70	21.1	75	W	14	6.3		1c	0	Calm		0.12	3.0	Clear	
Mason, Texas	28.37	720.6	30.04	763.0	79	26.1	82	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.74	755.4	30.04	763.0	84	28.9	70	S	1	0.4		0	Sm'e		Calm	0	0	Clear	
Milwaukee, Wisconsin	29.11	739.4	29.80	756.9	74	23.3	68	SW	12	5.4		2k	0	W		0	0	Fair	
Mobile, Alabama	30.03	762.7	30.08	764.0	83	28.3	85	S	3	1.3		8c;k	0	NW;S		Inap.	Inap.	Fair	
Montgomery, Alabama	29.83	757.7	30.06	763.5	83	28.3	84	Calm	0	0		2c	0	Calm		0	0	Clear	
Morgantown, West Virginia	24.95	735.3	29.95	760.7	75	23.9	86	S	2	0.9			10s		SW	0.18	4.6	Cloudy	
Mt. Washington, N. H.	23.86	606.0	30.22	767.6	49	9.4	100	NW	12	5.4			Fog		NW	0.12	3.0	Foggy	
Nashville, Tennessee	29.58	750.8	30.07	763.8	79	26.1	82	Calm	0	0			Haze		Calm	0	0	Hazy	
New Haven, Connecticut	29.88	758.9	30.00	762.0	67	19.4	95	S	8	3.6			10n			0.05	1.3	Light rain	
New London, Connecticut	29.98	761.5	30.02	762.5	69	18.9	89	S	7	3.1			10s		S	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	29.98	761.5	30.04	763.0	84	28.9	75	Calm	0	0		2k	2ks	W	W	0	0	Fair	
Newport, Rhode Island	29.97	761.2	30.02	762.5	65	18.3	89	SE	4	1.8			10s		S	0	0	Threatening	
New York, New York	29.82	757.4	29.99	761.7	67	19.4	100	SE	7	3.1			10s;fg		SE	0.75	19.1	Cloudy	
Norfolk, Virginia	29.95	760.7	30.00	762.0	85	29.4	76	SW	7	3.1		0	0			0	0	Clear	
North Platte, Nebraska	27.15	689.6	29.63	752.6	66	18.9	82	NE	8	3.6		5k	0	W		0	0	Fair	
Olympia, Washington Ter.	29.92	760.0	29.96	761.0	54	12.2	87	SW	6	2.7			10s		Calm	0	0	Cloudy	
Omaha, Nebraska	28.84	732 5	29.87	758.7	70	21.1	80	N	4	1.8		0	0			0	0	Clear	
Oswego, New York	29.55	750.6	29.85	758.4	71	21.7	85	S	8	3.6		5c	0	Calm		Inap.	Inap.	Fair	
Pembina, Dakota	29.06	738.1	29.84	758.4	56	13.3	94	W	5	2.2		0	0			0	0	Clear	
Philadelphia, Pennsylvania	29.92	760.0	29.97	761.2	72	22.2	95	S	11	4.9			10s;fg		S;Calm	0	0	Cloudy	
Phœnix, Arizona	25.80	731.5			84	28.9	79	Calm			0	10c	0	Calm		2.37	60.2	Cloudy	
Pike's Peak, Colorado	18.20	462 3	30.42	772.7	44	6.7	68	SW	6	2.7		0	2ks		SW	0	0	Clear	
Pioche, Nevada	24.13	612.9	29.90	759.4	69	20.6	15	S	12	5.4		0	Haze		Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.13	739.9	29.90	759 4	74	23.3	86	W	5	2.2		2c	0	W		Inap.	Inap.	Fair	
Port Huron, Michigan	29.15	740 4	29.78	756.4	67	19.4	89	SW	8	3.6			10ks		Calm	0	0	Cloudy	
Portland, Maine	29.94	760.5	29.99	761.7	63	17.2	83	W	5	2.2			10s		Calm	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Oregon	29.98	761.5	30.08	764.0	58	14.4	82	NW	4	1.8			10ks		SE	0	0	Cloudy	
Prescott, Arizona	24.90	632.4	30.26	768.6	65	18.3	73	Calm			0	2cs	0	Calm		0.31	7.9	Fair	
Punta Rassa, Florida	30.08	764.0	30.10	764.5	88	28.3	79	E	7	3.1		5ck	0	NE		0	0	Fair	
Red Bluff, California	29.61	749.5	29.85	758.2	69	20.6	61	Calm	0	0		0	Haze		Calm	0	0	Clear	
Rochester, New York	29.23	742.4	29.81	757.2	73	22.8	81	SW	7	3.1		1c	0	Calm		0.18	4.6	Clear	
Roseburg, Oregon	29.52	749.8	30.09	764.3	53	11.7	86	Calm	0	0			10s		Calm	0	0	Cloudy	
Sacramento, California	29.79	756.7	29.87	758.7	66	18.8	81	S	8	3.6		0	0			0	0	Clear	
St. Louis, Missouri	29.40	746.7	29.94	760.5	80	26.7	78	S	3	1.3		0	Sm'c			0	0	Clear	
St. Marks, Florida	30.07	736.8	30.08	764.0	80	26.7	91	Calm	0	0		0	0			0	0	Clear	
St. Paul, Minnesota	29.03	737.3	29.82	757.4	65	18.3	83	W	4	1.8		0	0			0	0	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	72	22.2	23	SE	4	1.8		0	0			0	0	Clear	
San Antonio, Texas	29.32	744.7	29.88	758.9	78	25.6	87	SE	1	0.4		2k	0	SE		0	0	Clear	
San Diego, California	29.88	758.9	29.95	760.7	65	18.3	84	W	8	1.3			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.23	742.4	29.86	758.4	71	21.7	85	SW	7	3.1			10ks		W	0.25	6.3	Cloudy	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	67	19.4	100	SE	8	3.6			10s		SE	0.03	0.8	Cloudy	
San Francisco, California	29.58	758.9	29.95	760.7	53	11.7	93	SW	8	3.6			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.44	595.4	29.98	761.5	62	16.7	46	NE	1	0.4		2c	0	Calm		0	0	Fair	
Savannah, Georgia	30.00	762.0	30.09	764.3	86	30.0	76	SW	6	2.7		5ck	Haze	W	Calm	0.40	10.2	Fair	
Shreveport, Louisiana	29.80	756.9	30.00	762.0	82	27.8	87	Calm	0	0		1c	0	Calm		0	0	Clear	
Silver City, New Mexico	24.42	620.3	30.29	769.4	65	18.3	68	W	8	1.3		2ck	2ks	Calm	Calm	0.16	4.1	Fair	
Smithville, North Carolina	30.05	763.3	30.08	764.0	82	27.8	87	W	6	2.7		0	1ks		W	2.10	53.3	Clear	
Springfield, Massachusetts	29.80	756.9	29.92	760.0	65	18.3	94	S	6	2.7			10n		S	0.10	2.5	Light rain	
Stockton, Texas	29.97	680.0	29.97	761.2	64	17.8	84	SE	10	4.5		0	0			0	0	Clear	
Thatcher's Island, Mass	29.97	761.2	30.02	762.5	60	15.6	94	SW	8	3.6			10s		Calm	0	0	Cloudy	
Toledo, Ohio,	29.17	740.9	29.80	756.9	72	22.2	80	W	4	1.8			10s		Calm	0.88	22.4	Cloudy	
Tucson, Arizona	27.44	697.0	29.99	761.7	83	28.3	64	Calm			0	10k	0	S		0.05	1.3	Cloudy	
Tybee Island, Georgia	30.06	763.5	30.09	764.3	81	27.2	87	SW	4	1.8		2ck	2ks	Calm	SW	0.02	0.5	Fair	
Umatilla, Oregon	29.48	748.8			70	21.1	48	SW	24	10.7		2c	0	SW		0	0	Fair	
Vicksburg, Mississippi	29.82	757.4	30.06	763.5	79	26.1	91	S	4	1.8		0	0			0	0	Clear	
Virginia City, Montana	24.34	618.2	29.82	757.4	56	13.3	57	Calm	0	0		0	0			0	0	Clear	
Visalia, California	29.52	749.8	29.88	758.9	63	17.2	67	SE	4	1.8		0	0			0	0	Clear	
Washington, D. C.	29.86	758.4	29.97	761.2	75	23.9	97	SW	6	2.7			Fog		SW	Inap.	Inap.	Foggy	
Wickenburg, Arizona					74	23.3	90	Calm			0	2cs	2s	Calm	Calm	0.03	0.8	Fair	
Wilmington, N. Carolina	29.98	761.5	30.06	763.5	81	27.2	86	W	6	2.7		0	Haze			0.11	2.8	Clear	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	56	13.3	74	SW	8	3.6		0	0			0	0	Clear	
Wood's Holl, Mass.	29.99	761.7	30.04	763.0	65	18.3	78	S	1	0.4			10s		Calm	0	0	Cloudy	
Yankton, Dakota	28.70	729.0	29.91	760.5	64	17.8	89	NW	2	0.9		0	0			0.03	0.8	Clear	
Yuma, Arizona	29.74	755.4	29.99	759.2	77	25.0	90	NW	2	0.9			10ks		E	1.21	30.7	Cloudy	
Sub-Series.																			
St. Paul's Island, Alaska																			
York Factory, B. A.	29.66	753.4	29.71	754.6	55.0	12.8	81	NE	8	3.6		4c	0	NE		0.10	2.5	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.02	762.5	30.04	763.0	81	27.2	74	SE	1.2	0.5		0	0			0.29	7.4	Clear	Chas. Hasselbrink.
St. Thomas					83	28.3	79	E	2	0.9		2c	2s	E		0	0	Clear	G. G. Gelliloh.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	81	27.2	83	Calm	0	0		2k	0	Calm		0	0		James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	85	29.4		E	5.4	2.4						0	0		F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	81	27.2	87	E			2	5k	7ks	E		0	0	½ Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.																			Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1			63.5	17.5	71	Calm	0	0		0	0			0	0		Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 (?) m.; Camp Grant, 4,823 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,750 ft., or 533.4 m.; Denver, 5,182 ft., or 1,578.4 m.; Dodge City, 2,486 ft., or 757.6 m.; Fort Craig, 4,622 (?) ft., or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.8 (?) m.; Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) m.; Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.5 ft., or 313.3 m.; Medellin, 4,878 ft., or 1,486.2 m.; Mt. Washington, 6,255 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.5 (?) ft., or 1,761.4 (?) m.; Prescott, 5,536 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,862.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,535 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.87 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.83 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.23	767.8	86	30.0	86	30.0	76	SE	3	1.3	.....	.....	5	.....	S	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.97‡	761.2‡	.....	.....	64	17.8	78	NE	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.84*	757.9*	79.8	26.6	78.8	26.0	86	E	.....	.....	4	.....	10ks;n	.....	W	Slight	Slight	.....	.....	Light rain...	
Adams. Pago-Pago	30.00	762.0	80	26.7	79	26.1	95	SE	.....	.....	1	.....	5	.....	S;E	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	30.15‡	765.8‡	.....	.....	70	21.1	75	S	.....	.....	0–1	.....	7	.....	S	.....	.....	.....	.....	Cloudy.....	
Ashuelot. Nagasaki, Japan	29.84	757.9	82	27.8	81	27.2	100	S	.....	.....	6	.....	10	.....	S	.....	.....	.....	.....	Rainy.....	
Canonicus, New Orleans, La	30.04	763.0	57	13.9	82	27.6	91	SE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y	29.94‡	760.5‡	.....	.....	68	20.0	95	SE	10	4.5	.....	.....	10	.....	S	0.95	24.1	.....	.....	Light rain....	
Constitution, Havre, France	30.13‡	765.3‡	.....	.....	69	20.6	80	ESE	.....	.....	2	.....	4	.....	E	.....	.....	.....	.....	Pleasant... ..	
Despatch, N. 40° 40′ E. 27° 32′	29.46‡	748.3‡	.....	.....	71	21.7	85	SW	.....	.....	2	.....	8	.....	N	.....	.....	Smooth	.....	Fair.....	
Franklin, Norfolk, Va	30.11	764.8	82	27.8	81	27.2	87	S	7	3.1	.....	.....	0	.....	.....	0	0	.....	.....	Fair.....	
Gettysburg Villefranche, France	29.87‡	758.7‡	.....	.....	85	29.4	79	S	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Hartford, Rio de Janeiro, Brazil	30.36	771.1	.....	.....	69	20.6	95	NNW	2.4	1.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Marion, Villefranche, France	29.96	761.0	79	26.1	80	26.7	61	SSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	S	Clear.	
Michigan, Detroit, Mich	29.44	747.8	74	23.3	70	21.1	85	NW	.....	.....	1	.....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
Monocacy. Yokohama, Japan	29.80‡	756.9‡	.....	.....	79	26.1	86	E	.....	.....	3–5	.....	10	.....	SSE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C	30.29†	769.4†	.....	.....	82	27.8	83	SW	9	4.0	.....	.....	8	.....	.....	0.01	0.3	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	63	17.2	78	E	.....	.....	2	.....	2	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.75	755.6	86	30.0	80	26.7	87	SSE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.94	760.5	60	15.6	54	12.2	93	SW	11	4.9	.....	.....	8	.....	SW	.....	.....	.....	.....	Overcast.....	
Plymouth, New York, N. Y	30.01‡	762.2‡	.....	.....	69	20.6	95	SE	.....	.....	2	.....	8	.....	SSE	.....	.....	.....	.....	Pleasant.....	
Ranger. Hong-Kong, China	29.86	758.4	83	28.3	83	28.3	88	Calm	.....	.....	0	.....	5	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo. Brownsville, Texas	29.95	760.7	77	25.0	76	24.4	100	ESE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md	29.91‡	759.7‡	.....	.....	78	25.6	91	S	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.94	760.5	74	23.3	73	22.8	95	S	9	4.0	.....	.....	10	.....	S	0.05	1.3	.....	.....	Cloudy.....	
Supply, Havre, France	30.22	767.6	68	20.0	70	21.1	75	SE	.....	.....	1	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass	30.01‡	762.2‡	.....	.....	63	17.2	89	SW	.....	.....	1	.....	10	.....	W	.....	.....	.....	.....	Misty....	
Trenton, N. 43° 22′, W. 9° 26′	29.83‡	757.7‡	.....	.....	67	19.4	79	SSW	.....	.....	4	.....	6	.....	S;W	0	0	Smooth	.....	Fair.....	
Tuscarora, Acapulco, Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vandalia, N. 36° 21′, E. 19° 19′	29.72‡	754.9‡	.....	.....	76	24.4	77	N	.....	.....	4	.....	0	.....	.....	.....	.....	Mod'ate	WNW	Clear.....	
Wabash, Boston, Mass	30.00‡	762.0‡	.....	.....	64	17.8	78	SW	.....	.....	.....	.....	10	.....	Calm	0.08	2.0	.....	.....	Cloudy.....	
Wyoming, N. 43° 00′, W. 59° 04′	29.88†	758.9†	.....	.....	68	20.0	90	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Mod'ate	.....	Rain and fog	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			Capt. ——.
S. S. China, N. 35° 47′, E. 148° 18′		29.91*	759.7*	79	26.1	100	NE			3		4		NE	0	Light	ENE	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 42° 10′, W. 124° 50′		30.14*	765.5*				NW			2		10				Smooth	NW	Overcast	Capt. Seabury.
S. S. City of Peking, N. 35° 22′, E. 178° 12′		30.28†	769.1†	72	22.2	100	SE	20	8.9			10		S	Mod'ate	Smooth		Overcast	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 43° 27′, W. 124° 45′		30.05†	763.3†	58	14.4	88	WNW			3		7		SSE	0	Small	NNW	Foggy	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 28° 17′ W. 146° 38′		30.52‡	775.2‡	68	20.0	††	ENE			7		5		ENE	Light	Rough	NE	Fine	Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 51° 26′, W. 15° 24′		30.03*	762.7*	60	26.7	41	SSE			3		10		SE	0	Slight	SE	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic																			Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andreassen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 44° 56′, W. 40° 32′		29.98	761.5	65	18.3	68	ENE			3		5		NE		2	NE	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Delaware River		29.81*	757.2*	74	23.3	90	S			3		1		SW	Light	Smooth	SSW		Captain Sargent.
S. S. Ohio, Liverpool		30.20	767.1	74	23.3	90	E			3		5		ENE	0			Clear	Captain Morrison.
S. S. Pennsylvania																			Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		29.93*	760.2*	44.0	6.7	68	Calm			0		10ks		SSE				Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; when the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 2, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			Dr. Ollive.
Nemours			29.89	759.3	81.5	27.5	54	NW			4		1			0	0	Very fair	Kesxuche.
Algiers			29.76	755.9	83.5	28.6	63	W			4		5			0	0	Cloudy	Tourillere.
La Calle			29.78	756.4	85.3	29.6	68	N			1		6			0	0	Cloudy	Foufrede.
Tunis			29.81	757.8	77.0	25													Jacques.
Sfax			29 93	760.2	87.8	31.0		ENE			3		7			0	0	Very cloudy	Gau.
Saida			29.96	761.0	77.0	25.0	28	NNW			1		6			0.039	1.0	Cloudy	Herbin.
Tebessa			29.87	758.6	94.5	34.7		ESE			1		6			Inap.	Inap	Cloudy	Watrin.
Geriville			29.96	760.9	80.4	30.2	76	S			9		9			0.236	6.0	Covered	Brugniaux.
Laghouat			29.93	760.1	93.9	34.4	26	Calm			0		2			0	0	Fair	Bertrand.
Biskra			29.85	758.2	93.2	34.0	31	SE			1		4			0	0	Cloudy	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.80	744.2	29.83	757.6	72.0	22.2	52	NE			2		5			0	0		Prof. Ivan Stoau.
Cracow	29.09	738.9	29.84	757.8	62.2	16.8	90	W			1		10			0.376	9.56		Prof. Dr. Karlinski.
Eperies	28.92	734.5	29.77	756.1	66.2	19.0	89	Calm			0		10ns;fog		S	0.500	12.70		Julius Mikolik.
Gratz	28.61	726.7	29.82	757.3	67.8	19.9	62	W			2		2			0	0		Andreas Rospini.
Hermannstadt	28.29	718.5	29.09	754.0	57.7	14.3	85	NW			3		10			1.136	28.85	Raining	Prof. Reissenberg
Kremsmünster	28.44	722.3	29.74	755.4	62.2	16.8	68	ENE			3		1			0	0		Prof. C. Wagner
Lemberg	28.70	731.8	29.73	755.2	72.0	22.2	61	NE			2		4			0	0		Dr. T. Stanecki.
Pola	29.09	754.1	29.80	756.8	72.0	22.2	63	ESE			3		9ks			0	0		I.R.Hydrographic Office
Szathmar	29.37	746.9	29.81	757.2	72.0	22.2	69	S			3		9			0.486	12.4		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste																			P. Busin.
Vienna	29.73	755.1	29.83	757.7	74.1	23.4	56	Calm			0		8			0	0	Cloudy	I. R. Central Met. Obs'y.
	29.17	740.8	29.86	758.5	65.1	18.4	55	NW			1		8			0.087	2.2		

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.37	720.6	29.85	758.1	60.1	15.6	58	ENE			6		8			0.016	0.4		Prof. M. Passau.
Brussels	29.09	754.2	29.89	759.2	64.0	17.8	59	E			0		10		ENE	0.114	2.90		Royal Observatory
Furnes	29.89	759.3	29.92	759.9	72.0	22.2	55	E			3		7			0.575	14.6		M. E. de Cae.
Maeseyck	29.82	757.5	29.95	760.7	61.0	16.1	76	NE			4		10			0.138	3.5	Raining	M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.21	767.3	30.31	769.9	57.1	13.9	.....	NE	15	6.7	.....	.....	9	.....	.....	0	0	Overcast	W. Boswell.
Ardrossan	30.14	765.5	30.16	766.1	71	21.7	.....	NE	.....	.....	5	.....	4	.....	.....	.....	.....	Hazy	George Carrick.
Armagh, Observatory	.....	.....	30.11	764.8	67.5	19.7	.....	ENE	14	6.3	.....	.....	3	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.03	762.7	71.0	21.7	.....	ENE	15	6.7	.....	.....	6	.....	.....	.....	.....	D. clouds	John Hartnup.
Birr Castle, (Parsonstown)	29.83	757.7	30.02	762.5	68.8	20.4	.....	ESE	.....	.....	3-4	.....	7	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.99	754.1	30.08	764.0	69.2	20.7	.....	E	.....	.....	4	.....	6	.....	.....	0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	84.5	29.2	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.00	762.0	73.0	22.8	.....	N	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds	H. Todd. [H.C.
Cardington	.....	.....	30.01	762.2	73.0	22.8	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.83	757.7	29.90	761.0	67.2	19.6	.....	NE	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.46	722.9	29.91	759.7	60.0	15.6	.....	E	.....	.....	6	.....	6	.....	.....	.....	.....	Gloomy	Alexander Watt. [Col. Mar-
Donaghadee	30.13	765.3	30.16	766.1	64	17.8	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan. [tin, R. E.
Dover	29.90	759.4	29.92	760.0	65	18.3	.....	NE	.....	.....	5	.....	6	.....	.....	.....	.....	Squally	J. Costello.
Eccles, (near Manchester)	.....	.....	30.06	763.5	72.8	22.7	.....	E	6.6	3.0	.....	.....	5	.....	.....	.....	.....	Squally	Thomas Mackereth.
Falmouth, Observatory	29.71	754.6	29.93	760.2	63.0	17.2	.....	E	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	28.10	713 7	30.37	771.4	52.5	11.4	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.77	756.1	30.00	762.0	85	29.4	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	30.00	762.0	69	20.6	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.80	756.9	29.86	758.4	78.9	26.1	.....	W	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	30.00	762.0	30.21	767.3	64.6	18.1	.....	ENE	.....	.....	6	.....	3	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	30.02	762.5	30.03	762.7	65	18.3	.....	NE	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.79	756.7	29.95	760.7	71.3	21.8	.....	ENE	.....	.....	7	.....	6	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.64	752.8	29.86	758.4	63.5	17.5	.....	NE	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.95	760.7	67	19.4	.....	E	.....	.....	6	.....	1c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.01	762.2	30.06	763.5	67	19.4	.....	NE	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.67	751.1	29.85	758.2	65.3	18.5	.....	ENE	.....	.....	6	.....	2	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	29.96	761.0	68.4	20.2	.....	ENE	28	12.5	.....	.....	7	.....	.....	.....	.....	D. clouds	The Staff.
Kingstown	30.08	764.0	30.11	764.8	62	16.7	.....	ENE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	30.02	762.5	71.5	21.9	.....	NE	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.80	756.9	29.87	758.7	89	26.7	.....	E	.....	.....	1	.....	3s	.....	.....	.....	.....	D. clouds	H. J. Becket, A. H. C.
Nairn	30.20	767.1	30.29	769.4	65	18.3	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	Clear	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.07	763.8	86.2	30.1	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.87	758.7	30.05	763.3	75.0	23.9	.....	NE	.....	.....	6	.....	6k	.....	ENE	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.49	749.0	30.00	762.0	69.5	20.8	.....	ENE	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.99	761.7	68	20.0	.....	E	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	H.E. Bellamy.
Plymouth	29.85	758.2	29.92	760.0	67.1	19.5	.....	NE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.97	761.2	30.02	762.5	66	18.9	.....	E	.....	.....	6	.....	5	.....	.....	.....	.....	Hazy	W. Kennedy.
Saint Ann's Head	29.81	757.2	29.97	761.2	67	19.4	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.36	771.1	61.5	16.4	.....	ENE	19	8.5	.....	.....	2	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Seutari, Cemetery, (Turkey)	.....	.....	29.60	751.8	76.0	24.4	.....	SW	.....	.....	3	.....	5	.....	.....	Blank	Blank	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.82	757.4	30.09	764.3	72.0	22.2	.....	E	.....	.....	4	.....	4	.....	.....	0.45	11.4	D. clouds	W. F. Cooper.
Silloth Rectory	30.07	763.8	30.10	764.5	69.9	21.1	53	E	.....	.....	6	.....	3	.....	.....	0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.69	754.1	30.10	764.5	69.7	20.9	.....	ENE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	30.19	766.8	30.23	767.8	65	18.3	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.34	770.6	61	16.1	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29 95	760.7	73	22.8	.....	E	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	29.96	761.0	69.3	20.7	.....	ESE	22	9.8	.....	.....	2	.....	.....	.....	.....	Hazy	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.74	755.4	52.0	11.1	94	S	.....	.....	3	.....	7k	.....	.....	0.3	8.	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.94	760.5	30.13	765.4	74.0	23.3	64	SE	8.5	3.8	.....	6	0	NNW	.....	0	0	Cloudy	C. Meldrum.
Melbourne, Observatory	30.00	762.0	30.09	764.3	49.0	9.4	90	WSW	7	3.1	.....	.....	10	.....	.....	0.01	0.3	Misty	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudinss for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria. N. 41° 15′ W. 60° 55′	.....	.....	29.85	758.2	69	20.6	.....	W	.....	.....	3	.....	9	WSW	.....	5*	E	D. clouds	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine. N. 61° 12′, W. 48° 10′	.....	.....	29.95	760.7	44	6.7	.....	SSW	.....	.....	4	.....	9	SSE	.....	.....	.....	Rain and fog	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller. N. 43° 55′, W. 57° 55′	.....	.....	29.90	759.4	64	17.8	.....	E	.....	.....	6	.....	10	.....	.....	4	ESE	Overcast	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.29	667.8	.....	.....	69.4	20.8	91	NE	.....	.....	3	.....	10s	E	.....	0	0	.....	Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.06	763.4	30.10	764.6	70.5	21.3	59	E	.....	.....	4	.....	4	.....	.....	.....	.....	.....
Fanöe	30.04	763.0	30.06	763.5	75.4	24.1	44	ENE	.....	.....	6	.....	2	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.90	759.4	29.94	760.5	44.6	7.0	87	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	30.29	769.4	30.34	770.5	56.8	13.8	71	S	.....	.....	4	.....	8	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.42	772.0	30.45	773.5	54.5	12.5	88	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy
Vestervig	29.98	761.4	30.15	765.7	75.2	24.0	66	NE	.....	.....	6	.....	0	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.29	744.0	29.34	758.0	66.2	19	83	NE	.....	.....	4	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bouvallet, Director.
Avignon, Normal School	29.75	755.6	29.83	757.6	77.7	25.4	45	NE	.....	.....	2	.....	6	.....	.....	0	0	Cloudy	M. Girand, Director.
Bar-sur-Seine	29.21	741.9	29.74	755.4	68.5	20.3	70	SE	.....	.....	1	.....	5	.....	E	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.55	750.6	29.83	757.7	69.6	20.9	44	NNE	.....	.....	4	.....	5	.....	ENE	0	0	Cloudy	Frere Eugene Marie, Director.
Besançon	29.04	737.6	29.90	759.5	70.2	21.2	55	NW	.....	.....	8	.....	2	.....	SW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School	28.85	732.8	29.78	756.3	73.2	22.9	55	N	.....	.....	1	.....	8kn	.....	W	0	0	Very cloudy	M. Marlot, Director.
Bourges, Normal School	29.17	740.9	29.70	754.3	73.0	22.8	55	NE	.....	.....	3	.....	5kn	.....	NE	0	0	Partly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.48	748.9	29.72	755.0	75.2	24.0	56	NE	.....	.....	5	.....	2	.....	NE	0	0	.....	The Staff.
Carcassonne, Normal School	29.17	740.8	29.56	750.7	80.1	26.7	43	E	.....	.....	4	.....	5	W	.....	0	0	Cloudy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.25	742.9	29.80	756.9	68.4	20.2	81	NE	.....	.....	2	.....	8	.....	SW	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.46	748.3	29.76	756.0	73.4	23.0	62	ESE	.....	.....	3	.....	2	E	E	0	0	Slightly cl'dy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.85	720.0	29.65	753.2	73.8	23.2	69	NE	.....	.....	1	.....	.....	.....	NE	0	0	.....	Alluard, Director.
Commercy, Normal School	28.95	735.3	29.80	757.0	64.0	17.8	56	E	.....	.....	6	.....	8kn	.....	E	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.60	726.3	29.74	755.3	73.0	22.8	74	SE	.....	.....	2	.....	10	.....	SE	0	0	Covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.47	748.6	29.68	753.8	75.6	24.2	45	E	.....	.....	6	.....	10	.....	E	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.40	749.0	29.87	758.6	70.2	21.2	60	E	.....	.....	4	.....	2	.....	E	0	0	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.77	730.7	29.04	752.8	73 2	22.9	44	NE	.....	.....	6	.....	2	.....	W	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	72.3	22.4	72	NE	.....	.....	3	.....	6	.....	NE	0	0	Cloudy	M. Galzin, Director.
Mirecourt, Normal School	28.94	735.1	29.65	760.7	64.0	17.8	72	N	.....	.....	4	.....	1k	.....	S	0	0	Clear	M. Barbier, Director.
Nismes, Normal School	29.45	747.9	29.65	753.2	84.9	29.4	59	NE	.....	.....	1	.....	5	.....	N	0	0	Cloudy	Boyer, Director.
Orleans, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bernard, Director.
Paris, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	National Observatory.
Privas, Normal School	28.74	730.1	29.76	755.8	77.9	25.5	45	N	.....	.....	1	c	.....	N	N	0	0	.....	M. Cantier.
Puy de Dome (Summit)	24.94	633.5	.....	.....	51.8	11.0	82	E	.....	.....	3	.....	.....	.....	E	0	0	Stormy	Alluard, Director.
Rochefort, Naval Obs'y	29.63	752.2	29.66	753.3	73.0	22.8	54	E	.....	.....	2	.....	10	.....	E	0	0	Covered	M. Giguel, Director.
Rouen, Normal School	29.74	755.5	29.83	757.6	73.9	23.3	88	NE	.....	.....	2	.....	2	.....	NE	0	0	Slightly cl'dy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.80	756.9	67.5	19.7	67	ENE	.....	.....	3	.....	1	.....	ESE	0	0	Clear	M. H. Hercouet.
Tarbes, Normal School	29.01?	736 8?	30.07?	763.8?	64.4	18	80	SSW	.....	.....	2	.....	0	.....	.....	0.63	16.	Clear	T. Huguet, Director.
Villefranche, Normal School	29.04	737.5	29.71	754.7	76.8	24.9	66	ESE	.....	.....	1	.....	8	.....	E	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.87	758.8	29.90	759.5	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	11.3	288.	.....	L'Abbé Marchès.
Lyons	.....	.....	29.71	754.7	73.8	23 2	52	.....	.....	.....	.....	.....	8	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.66	753.4	73.4	23.0	67	W	.....	.....	1	.....	10	.....	.....	.....	.....	Rainy	The Staff.
Mont-Louis	24.81	630.1	30.12	765.1	64.0	17.8	62	WSW	13.0	5.83	.....	.....	4	.....	SE	0.287	7.3	.....	M. Cave.
Nice	.....	.....	29.75	755.7	75.4	24.1	67	W	.....	.....	1	.....	3	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.50	749.3	29.78	756.3	72.7	22.6	42	ENE	.....	.....	4	.....	7	.....	ENE	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	29.60	751.8	68.7	20.4	53	SE	14.9	6.66	.....	.....	5	.....	SW	0.413	10.5	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.35	567.7	.....	.....	45.7	7.6	.....	SW	.....	.....	3	.....	10	.....	.....	1.039	26.4	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.61	752.2	29.78	756.4	70.5	21.4	48	ENE	.....	.....	3	.....	4	.....	ENE	0	0	.....	E. Renou.
Toulouse, Observatory	28.95	735.4	29.67	753.5	69.4	20.8	78	S	.....	.....	1	.....	9	.....	.....	1.217	30.9	Thunder-storm	The Staff.
Tours	29.53	750.0	29.72	755.0	75.4	24.1	46	ENE	.....	.....	3	.....	2	.....	E	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	29.80	756.9	70.9	21.6	45	E	.....	.....	4	.....	8	.....	.....	0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.71	754.7	29.74	755.3	81.7	27.6	96	ESE	6.5	2.9	.....	.....	1k	.....	.....	0	0	Clear	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.3 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,686.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.98	736.2	29.82	757.5	68.9	20.5	69	E			3		4	E		0.04	1.	Raining	Prof. Dr. Hoh.
Berlin	29.78	756.3	29.95	760.6	64.4	18.0	76	E			1		10			0.335	8.5	Raining	Prof. Arndt.
Breslau	29.42	747.3	29.95	760.7	59.2	15.1	94	NW			1		10			0.122	3.11	Raining	Royal University Obs'y
Carlsruhe	29.35	745.6	29.77	756.1	65.7	18.7	63	NE			2		9			0.024	0.6		Albert Senz.
Cassel	29.24	742.8	29.85	758.1	64.4	18.0	63	NE			2		7	NE		0	0		Dr. H. Möhl.
Crefeld	29.74	755.5	29.91	759.6	58.6	14.8	81	NE			3		10			0.08	2.	Raining	Director Lose.
Emden	29.85	758.1	29.89	759.1	65.8	18.8	72	ENE			6		8			0	0		Prof. Prestel.
Frankfort on the Main	29.53	750.0	29.89	759.1	64.0	17.8		ENE			4		7			0.370	9.4		Physical Society.
Friedrichshafen	28.33	719.6	29.72	755.0	64.8	18.2	59	NE			5		3	NE		0	0		M. Wilhelm.
Hamburg	29.87	758.6	29.93	760.3	66.2	19.0	81	ENE			5		10ks			0	0	Squally	Captain F. Hegemann.
Kiel	29.98	761.6	30.00	762.0	67.1	19.5	75	ENE			7		8			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.97	761.1	30.04	763.1	79.0	26.1	49	E			5		2			0.028	0.7		Prof. E. Luther.
Köslin			29.98	761.5	74.5	23.6		E			4		2			0	0		H. Müller.
Leipsic, Observatory	29.51	749.5	29.92	760.0	63.3	17.4	74	ENE			1		9			0.528	13.4		Prof. Bruhns.
Memel, Naval School	30.06	763.4	30.10	764.6	77.2	25.1	39	ENE			4		3ck					Squally	Reinbrecht and Skalweit.
Neufahrwasser	30.04	763.0	30.06	763.4	69.8	21.0	81	NE			3		6			0.012	0.3		A. Lothes.
Posen	29.72	754.9	30.00	762.0	69.8	21.0	71	E			6		10			0.748	19.0	Thunder-storm.	Dr. Magener.
Strassburg (in Alsace)	29.24	742.7	29.77	756.2	66.6	19.2	54	NE			4		4	ENE		0.074	1.87		Astronomical Observatory.
Stuttgart	28.86	733.1	29.78	756.3	65.3	18.5	46	E					4	E		0	0		Prof. Schoder.
Treves, (Trier)	29.19	741.5	29.71	754.6	66.2	19.0	46	NE			6		6			0.004	0.09		Prof. Fiesch.
Weissenburg, (Bavaria)	28.35	720.2	29.81	757.2	61.2	16.2	58	E	3.1	1.4			7ck		E	0.316	8.0		Dr. Von Bebber.
Wustrow, Naval School	30.01	762.3	30.05	763.3	68.7	20.4	77	NE			6		3			.0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been mensured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.35	745.5	29.72	755.0	84.9	29.4		SW			4.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee														E					
Deesa	29.05	737.9	29.52	749.7	86.5	30.3	80	S	18	8.0			7	S	WSW	0.30	7.6	D. clouds	
Bombay	29.59	751.5	29.63	752.2	77.3	25.2	98	W					10		WSW	0.85	21.6	Raining	
Poona	27.68	702.9	29.68	754.0	73.1	22.8	94	WNW					10		WNW	0.49	12.4	Overcast	
Lahore	28.74	730.1	29.47	748.5	88.1	31.2	76	NE	0.9	0.4			8			0	0	D. clouds	
Belgaum	27.20	690.9	29.75	755.7	70.5	21.4	94	W	23	10.3			10		W	1.48	37.6	Raining	
Bangalore																			
Roorkee	28.64	727.5	29.53	750.0	82.8	28.2	81	SE	4.8	2.3			9			0	0	Gloomy	
Agra	28.97	735.8	29.52	749.9	84.2	29.0	83	S					10		S			Raining	
Trichinopoly																			
Nagpur	28.49	723.6	29.51	749.6	83.6	28.7	85	Calm	0.7	3.0			8		SE	0.53	13.5	Gloomy	
Madras																			
Lucknow														E					
Allahabad	29.18	741.1	29.48	748.8	87.1	30.6	82	NE	1.4	0.6			9	E		0.02	0.5	D. clouds	
Patna	29.31	744.3	29.48	748.8	91.3	32.9	66	NE	1.2	0.5			5	N	N	0	0	D. clouds	
Hazaribagh	27.53	699.2	29.50	749.3	83.3	28.5	76	E	9.2	4.1			9		E			Raining	
Cuttack	29.38	746.2	29.46	748.3	83.0	28.3	87	ENE	2.8	1.2			10			1.10	27.9	Raining	
Calcutta (Alipore)	29.49	749.1	29.51	749.6	83.5	28.6	85	ESE	15.0	6.7			8		E			Drizzling	
Goalpara	29.15	740.4	29.53	750.1	85.8	29.9	84	NE	1.5	0.7			5			0	0	D. clouds	
Chittagong	29.50	749.2	29.59	751.5	82.7	28.2	87	SSE					6			0	0	Misty	
Sibsagar	29.27	743.4	29.60	751.8	86.6	30.3	78	N	1.0	0.4			5			0	0	D. clouds	
Rangoon																			
Jubbulpore	28.20	716.1	29.54	760.4	80.8	27.1	85	E	2.7	1.2			10			0.10	2.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.3	29.82	757.3	71.6	22.0	52	Calm	0	0			8			0	0		Prof. Giovanni Clodig.
Padua	29.09	754.2	29.80	756.9	70.7	21.5	65	ENE	18.1	8.1			9	E		0.193	4.9		Prof. Dott. Lorenzoni
Vicenza	29.02	752.3	29.80	757.0	66.9	19.4	72	SE	6.9	3.1			5	E		0.630	16.0		Conte Alm. Da Schio.
Bergamo	28.43	722.0	29.69	754.2	75.2	24.0	39	E			6		7			1.547	39.3		Prof. Trionfini Carlo.
Milan	29.17	740.8	29.66	753.3	81.7	27.6	45	E			2		6			5.949	24.1		Prof. Schiaparelli.
Moncalieri	28.80	731.4	29.67	753.6	75.4	24.1	52	ESE	4.9	2.2			7	SW		0.291	7.4		Prof. P. F. Denza.
Mondovi	27.83	706.9	29.67	753.6	73.4	23.0	39	NW			4		9	W		0	0		Prof. D. C. Bruno.
Porto Maurizio	29.52	749.8	29.73	755.2	79.9	26.6	52	SW			4		10	WNW		0.110	2.8		Prof. L. Vassallo.
Genoa	29.58	751.3	29.74	755.4	75.2	24.0	63	SE			4		10	S		0	0		Prof. G. M. Garibaldi.
Parma	29.43	747.5	29.73	755.2	75.4	24.1	49	ENE			8		8			0	0		Prof. P. Pigorini.
Florence	29.49	749.0	29.73	755.2	84.2	29.0	27	S			2		10	S		0	0		Cav. F. Meucci.
Leghorn	29.65	753 0	29.73	755.1	79.2	26.2	50	SW	9.4	4.2			8			0	0		Prof. P. Monte.
Pesaro	29.70	754.3	29.74	755.5	82.0	27.8	38	S					6			0	0		Prof. Luigi Guidi.
Urbino	28.26	717.8	29.76	755.9	76.3	24.6	44	SW			2		10			0	0		Prof. P. Serpieri.
Grosseto																			Avv. P. Ponticelli.
Rome	29.66	753.3	29.83	757.6	82.9	28 3	32	SW	16.8	7.5			10			0	0		Prof. P. G. S. Ferrari.
Naples, O. U	29.68	753.9	29.87	758.8	80.1	26.7	34	SSW			4		7	WNW		0	0		Prof. L. Palmieri.
Lecce	29.61	752.1	29.85	758.3	75.7	24.3	39	ESE	12.5	5.6			2			0	0		Prof. C. De Giorgi.
Cagliari	29.55	750.6	29.74	755.3	81.7	27.6	60	SE			4		1	W		0	0		Prof. A. Pacinotti.
Cosenza	29.60	736.5	29.84	757.9	82.8	28.2	66	SW	3.1	1.4			0			0	0		Prof. F. D. Conti.
Palermo	29.63	752.6	29.87	758.8	78.1	25.6	49	ENE	10.5	4.7			1			0	0		Prof. G. Cacciatore.
Syracuse	29.85	758.3	29.93	760.2	81.3	27.4	51	SE			4		6	SW		0	0		Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.35	745.4	29.90	759.5	77.0	25.0	68	SW	1.8	0.8			5	S		0.508	12.9		Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.8 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.00	751.8	29.79	756.6	78 1	25.6	92	WSW	11.2	4.98			10s;ks		WSW	0.280	7.11	Cloudy	
Tokei (Yeddo) Observatory	29.82	757.4	29.89	759.2	74 4	23.6	95	E	3.0	1 3			10n			0.760	19.30	Light rain	I. Arai, Director.
Tokei (Yeddo) University	29.77	756.1	29.86	758.5	72.3	22.4	100	E	4	1.8			10n			0.16	4.1	Showery	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Señor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes																			I. N. Marin, M. D.
Córdoba																			C. Peña, M. D.
Cuernavaca					64.0	17.8	80	N	1.8	0.8		4cs	0	SE		0.17	4.2	½ cloudy	L. Castillo, A. E.
Guadalajara	25.11	637.8	30.08	764.1	55.4	13.0	86	S	1.8	0.8		0	0	SE		0.23	5.8	½ cloudy	Prof. L. Perez.
Guanajuato	23.74	603.2	29.90	759.5	64.4	18.0	79	ENE				3	0			0	0	Clear	Prof. V. Fernandez
Leon	24.40	619.6	29.91	759.6	64.2	17.9	70	SSE	0.9	0.4		1c	0	NW		0.07	1.8	Clear	Prof. M. Leal.
Mexico	23.15	587.8	30.15	765.9	55.4	13.0	76	NW	2.2	1.0		8c	0			0.09	2.3		Central Observatory.
Orizaba																			N. N.
Orizaba																			I. Orozco, M. D.
Pabellon, (Aguascalte)					64.8	18.2	81	Calm	0	0		0	8k		NE	0	0	Cloudy	M. V. de Leon, M. E
Puebla	23.40	594.3	30.06	763.5	55.6	13.1	84	ENE	2.7	1.2		2ck	4cs			0	0	½ cloudy	Prof. B. Gonzales.
Toluca																			Prof. C. Velazquez.
Tlacotalpam																			Prof. F. R. Bayly.
San Luis Potosi	24.29	616 3	30.23	767.8	62.0	16.7	57	E	0.9	0.4		4	5	N	E	0	0	Very cloudy	G. Barroeta, M. D.
Vera-Cruz	29.99	761.7	30.02	762.4	79.7	26.5	80	SSE				3c	3ck			0	0	½ cloudy	Prof. J. Rossell.
Zacatecas					59.0	15.0	81	NE	5.1	2.3		2	6			0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	591.0	29.99	762.0	54.0	12.2	78	NE	0.4	0.2		1	0			0	0	Clear	Prof. P. Spina, [M.M. D. D.
Morelia																			M. Tena, F.L. Paramo,
Durango																			M. V. de Leon, C. E.
Colima	28.87	720.6	29.98	761.6	80.6	27.0	79	SW	1.8	0.8		0	10		NW	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam	29.78	756.4	29.93	760.1	77.9	25.5		Calm	0	0		4cs	2ck			0	0	½ cloudy	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2291.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,361.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.6	29.95	760.6	66.6	19.2		ENE			5					0	0		
Groningen	29.92	759.9	29.97	761.3	64.9	18.3		NNE			4					0.020	0.5		
Helder	29.98	761.4	29.98	761.4	64.8	18.2		NNE			5					0.035	0.9		
Hellevoetsluis	29.95	760.6	29.95	760 6	66.7	19.3	67	NE			2								
Utrecht	29.91	759.7	29.96	760.9	65.3	18.5	61	NE			4		8			0.122	3.1	Very cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.22	767.5	30.27	768.9	74.5	23.6	51	S	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.34	770.6	30.38	771.6	59.0	15.0	74	SW	4	2	.....	.....	10	.....	.....	0	0	.....	
Christiania	30.10	764.4	30.24	768.0	77.7	25.4	47	ESE	9	4	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.13	765.4	30.18	766.5	55.4	13.0	70	W	7	3	.....	.....	8	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.63	752.7	29.82	757.4	73.0	22.8	86	WSW	13.7	6.1	.....	.....	5	.....	.....	0.354	9.0	.....	Dr. J. A. Sampaio.
Campo Major	28.82	732.0	29.82	757.3	75.2	24.0	46	SW	14.3	6.4	.....	.....	9	SW	.....	0.047	1.2	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.91	759.6	29.99	761.8	75.2	24.0	59	SW	8.7	3.9	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.49	749.1	29.85	758.1	69.8	21.0	76	WSW	21.0	9.4	.....	.....	10	WSW	.....	0.004	0.1	.....	The Staff.
Ponta Delgada, (Azores)	29.77	756.1	29.84	757.8	81.3	27.4	65	WNW	13.0	5.8	.....	.....	5	.....	.....	0.047	1.2	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 39° 17′, W. 15° 31′	.....	.....	29.77	756.2	71.2	21.8	.....	WSW	.....	.....	3	.....	10	.....	WSW	3	.....	Overcast	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	30.02	762.4	79.7	26.5	.....	E	.....	.....	3	.....	2	.....	SSW	2	.....	Blue sky	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.09	764.2	73.0	22.8	.....	Calm	.....	.....	0	.....	10	.....	.....	1	.....	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 41′, 5″ W. 23° 03′	.....	.....	30.01	762.3	81.7	27.6	.....	NE	.....	.....	2	.....	5	.....	NE	2	ENE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.96	760.9	75.2	24.0	.....	NW	.....	.....	2	.....	3	.....	NW	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.49	749.0	29.89	759.2	75.7	24.3	52	E	16	7	.....	.....	6c;ks	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.67	753.5	30.07	763.7	75.7	24.3	49	ENE	4	2	.....	.....	7	.....	.....	.....	.....	Astronomical Obs.
Dorpat	30.01	762.2	30.24	768.2	69.6	20.9	51	NE	9	4	.....	.....	0	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.21	767.3	30.23	767.7	68.2	20.1	74	WNW	4	2	.....	.....	4k	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.17	740.8	29.76	756.0	76.8	24.9	45	ENE	18	8	.....	.....	6c;ks	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.47	748.4	29.54	750.2	68.0	20.0	90	ENE	31	14	.....	.....	10n	.....	.....	.....	.....	Kurdakof.
Kertch	29.51	749.5	29.53	750.0	71.4	21.9	95	S	7	3	.....	.....	8	.....	.....	.....	Raining	Lagorio.
Moscow	29.68	751.3	30.11	764.9	64.9	18.3	76	NW	11	5	.....	.....	8n	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.50	749.3	29.70	754.3	78.8	26.0	41	ENE	22	10	.....	.....	5ck	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.10	764.6	30.12	765.1	75.2	24.0	61	Calm	0	0	.....	.....	2ck	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.31	719.1	29.63	752.7	85.6	29.7	46	SE	4	2	.....	.....	8ks	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.83	757.6	29.74	755.5	81.5	27.5	44	E	4	2	.....	.....	0	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.65	753.2	29.91	759.8	68.0	20.0	75	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.82	732.0	29.74	755.3	64.0	17.8	70	NNW	13	6	.....	.....	10	.....	.....	.....	.....	Meteorological Obs
Nukuss	29.38	746.2	29.60	751.7	89.8	32.1	42	NNE	7	3	.....	.....	0	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	27.98	710.6	29.53	750.0	93.9	34.4	59	Calm	0	0	.....	.....	0	.....	.....	.....	.....	Michelson.
Barnaul	28.79	731.2	29.27	743.4	77.0	25.0	46	NE	0	0	.....	.....	7	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.06	738.1	29.34	745.1	69.1	20.6	83	SW	4	2	.....	.....	7	.....	.....	Blank	Blank	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.44	747.8	29.58	751.4	77.7	25.4	97	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E. 8° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.50	749.4	29.61	752.0	81.9	27.7	51	S	4.6	2.06	.....	2k	6s	W	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.64	752.8	29.69	754.2	66.2	19.0	92	NW	1.9	0.87	.....	.....	10	.....	.....	0.244	6.2	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.81	681.0	.....	.....	66.2	19.0	81	NW	6.0	2.67	.....	4	4	SW	.....	0.059	1.5	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.56	700.0	29.68	753.9	75.2	24.0	50	SW	33.6	15.00	.....	0	9	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.49	749.0	29.63	752.6	95.2	35.1	33	ESE	4.1	1.83	.....	2	5	ESE	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.83	732.3	29.70	754.3	67.8	19.9	74	SW	13.4	6.00	.....	.....	9	.....	.....	0.102	2.6	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	30.02	762.6	30.09	764.2	80.6	27.1	82	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.84	757.8	29.93	760.3	76.1	24.5	66	SW	17.6	7.9	.....	0	10	.....	W	0.008	0.2	Light rain	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.4	30.03	762.7	83.5	28.6	86	SE	2.5	1.16	.....	1k	5k	SE	SE	0.108	2.75	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in genereal terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.10	764.5	30.14	765.5	68.4	20.2	.....	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.19	766 7	30.24	768 0	70.5	21.4	65	S	.....	.....	6	.....	2	.....	.....	0	0	.....	
Hernosand	30.18	766.6	30.23	767.9	76.6	24.8	42	S	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	30.10	764.6	30.28	769.1	71.8	22.1	44	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	30.12	765.0	30.18	766.6	64.8	18.2	76	NNE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.17	766.2	30.24	768.1	75.9	24.4	42	NE	6.5	2.9	.....	.....	2	.....	NNE	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.29	718.5	29 07	753.7	67.8	19.9	64	N	.....	.....	4	.....	5	.....	.....	0	0	Vapory.....	The Observatory.
Zurich	28.15	714.9	29.74	755.5	65.3	18.5	63	E	.....	.....	2	.....	4	SW	NE	0.236	6.0	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —9.4 mm.; Thermometer, —2.6 cent.; Relative Humidity, +11 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.65	753.0	73.0	22.8	64	SW	11	5.0	.....	.....	3	.....	WSW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	29.97	761.3	73.8	23.2	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.71	754.6	29.82	757.4	93.0	33.9	51	SW	.....	.....	3	.....	5s	.....	SW	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.75	755.6	29.82	757.4	67.9	19.9	77	SW	5	2.2	.....	4clc	0	.....	.....	0	0	Fair.....	Hon. J. Ferguson.
Brockville, Ontario	29.36	745.7	29.65	753.1	68	20.0	.....	SW	5	2.2	.....	.....	8s	.....	SW	0.02	0.5	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.80	756 9	29.86	758.4	63	17.2	83	Calm	0	0	.....	8clc	2ks	Calm	Calm	0	0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	29.85	758.2	29.89	759.2	64	17.8	79	SE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E
Cornwall, Ontario	29.42	747.3	29.60	751.8	69.0	20.6	88	W	.....	.....	4	.....	10s	.....	.....	0.806	20.47	Cloudy.....	James Smith, M. A
Dalhousie, N. B	29.68	753.9	29.84	757.9	64	17.8	93	E	.....	.....	2	.....	.....	.....	.....	0	0	Threatening	H. A. Johnson.
Esquimault, B. C	29.91	759.7	29.96	761.0	54.2	12.3	100	Calm	.....	.....	.....	10cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.72	754.9	29.74	755.4	66	18.9	74	Calm	0	0	.....	.....	10s	.....	S	0	0	Threatening	J. McWilliams.
Fredericton, N. B	29.78	756.4	29.84	757.9	63.5	17.3	82	Calm	0	0	.....	.....	10s	.....	.....	0.48	12.2	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.03	737.3	29.83	757.7	62	16.7	88	W	3	1.3	.....	2clc	2ks	W	W	0	0	Fair.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Granton, Ontario	28.73	729.7	29.78	756.4	68	20.0	95	W	.....	.....	1	0	0	.....	.....	0	0	Clear.....	H. J. Strang, M. A.
*Halifax, N. S	29.71	754.6	29.84	757.9	60	15.6	97	E	12	5.4	.....	.....	10n	.....	.....	0.073	1.85	Light rain...	James Grant.
Hamilton, Ontario	29.43	747.5	29.78	756.4	68.3	20.2	84	W	.....	.....	3	4c	0	NW	.....	0.13	3.3	Clear.....	F. Allison, M. A.
Heart's Content, N. F	30.04	763.0	30.07	763.8	51	10.6	83	N	.....	.....	1	0	0	.....	.....	0	0	Fine.....	Geo. Dickson, M. A.
*Kingston, Ontario	29.36	745.7	29.68	753.9	71	21.7	86	SW	6	2.7	.....	.....	10ks	.....	W	0.01	0.3	Cloudy.....	E. Weedon.
Little Glace Bay, N. S	29.04	760.5	29.98	761.5	57.0	13.9	.....	SE	8	3.6	.....	.....	10n	.....	.....	0	0	Overcast.....	S. Woods, M. A.
*Montreal, Quebec	29.43	747.5	29.62	752.3	67	19.4	91	NW	6	2.7	.....	.....	10s	.....	Calm	0.26	6.3	Cloudy.....	C. H. Rigby.
*Parry Sound, Ontario	29.04	737.6	29.70	754.4	66	18.9	94	W	10	4.5	.....	5ic	5ks	W	W	0.12	3.0	Cloudy	C. H. McLeod; C. E
Peterboro, Ontario	28.97	735.8	29.69	754.1	69.1	20.6	85	W	.....	.....	5	8ic	0	.....	.....	0.65	16.5	Fine.....	Rev. R. Mosley.
Port Dover, Ontario	29.13	739.9	29.79	756.7	68	20.0	79	W	11	4.9	.....	0	0	.....	.....	0.02	0.5	Clear.	J. F. Jeffers, B. A.
Port Hastings, N. S	29.85	758.2	29.90	759.4	58.5	14.7	.....	SE	7	3.1	.....	.....	.....	.....	.....	0.90	22.9	Fine	H. Morgan.
Port Stanley, Ontario	29.19	741.7	29.80	756.9	60	20.6	85	W	10	4.5	.....	0	0	.....	.....	0.07	1.8	Clear.....	Peter Grant.
*Quebec, Quebec	29.37	746.0	29.68	753.9	63	17.2	94	E	.....	.....	1	.....	10n	.....	E	0.86	21.8	Heavy rain..	M. Payne.
*Rockliffe, Ontario	29.20	741.4	29.64	752.8	65	18.3	89	NW	3	1.3	.....	.....	8s	.....	NW	0.22	5.6	Cloudy.....	Capt. Ashe, R. N
St. Andrews, N. B	29.78	756.4	29.83	757.7	57	13.9	93	SE	1	0.4	.....	.....	10n	.....	.....	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	29.69	754.1	29.85	758.2	62	16.7	91	E	5	2.2	.....	.....	10ks	.....	.....	0.485	12.32	Cloudy	Dr. Gove.
*Saugeen, Ontario	29.08	738.6	29.80	758.4	70	21.1	84	W	10	4.5	.....	2cs	0	.....	.....	0.31	7.9	Clear.....	G. Murdock, C. E.
Stayner, Ontario	28.98	736.1	29.72	754.9	68	20.0	84	NW	8	3.6	.....	.....	10n	.....	NW	0.43	10.9	Cloudy.	K. Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Toronto, Ontario	29.95	760.7	29.98	761.5	62	16.7	75	E	9	4.0	.....	0	8ks	.....	SE	0	0	Cloudy.	T. C. Hill.
Windsor, N. S	29.38	746.2	29.75	755.6	68	20.0	90	.....	10	4.5	.....	2k	2ks	NW	NW	0.72	18.3	Fair.....	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	52.0	11.1	86	E	.....	.....	.....	10	.....	.....	.....	0	0	Fair.....	J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0-10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.50	749.3	29.71	754.6	70	21.1	80	S	5	2.2	...	0	8s	.....	S	0.32	8.1	Fair	
Alpena, Michigan	29.14	740.1	29.74	755.4	70	21.1	75	W	11	4.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Atlantic City, New Jersey	29.76	755.9	29.78	756.4	73	22.8	85	W	8	3.6	.....	8k	0	SW	.....	0.50	12.7	Fair	
Augusta, Georgia	29.81	757.2	29.98	761.5	88	31.1	69	SW	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.76	755.9	29.80	756.9	78	25.6	73	NW	8	3.6	.....	2c	2s	NW	NW	0.48	12.2	Fair	
Barnegat, New Jersey	29.75	755.6	29.77	756.1	71	21.7	85	W	2	0.9	.....	8c	0	W	.....	0.93	23.6	Fair	
Bismarck, Dakota	28.08	713.2	29.93	760.2	70	21.1	66	E	4	1.8	.....	0	2s	.....	Calm	0	0	Clear	
BoiseCity, Idaho	27.16	689.8	30.04	763.0	61	16.1	49	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.58	751.3	29.72	754.9	63	17.2	100	S	3	1.3	.....	.....	Fog	.....	Calm	0.02	0.5	Dense fog	
Brackettville, Texas	28.83	732.3	29.80	756.9	80	26.7	70	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.91	734.3	29.87	758.7	60	15.6	88	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.88	758.9	29.94	760.5	82	27.8	83	NW	2	0.9	.....	2c	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.08	738.6	29.74	755.4	70	21.1	75	W	7	3.1	.....	1ck	2ks	W	W	Inap.	Inap.	Fair	
Burkes, Arizona	.....	.....	.....	.....	81	27.2	48	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.43	747.5	29.68	753.9	69	20.6	84	S	6	2.7	.....	.....	10s	.....	S	0.17	4.3	Cloudy	
Cairo, Illinois	29.60	751.8	29.97	761.2	85	29.4	76	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	78	NE	.....	.....	1	2k	5s	S	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.28	642.1	30.08	764.0	66	18.9	84	Calm	.....	.....	0	2ck	0	Calm	.....	0.25	6.3	Fair	
Camp Verde, Arizona	26.82	681.2	30.31	769.9	77	25.0	65	S	.....	.....	1	2k	0	Calm	.....	0	0	Fair	
Campo, California	27.45	697.2	30.02	762.5	68	20.0	84	Calm	.....	.....	0	0	0	.....	.....	Inap.	Inap.	Clear	
Cape Hatteras, N. Carolina	29.92	760 0	29.92	760.0	82	27.8	87	SW	16	7.2	.....	0	Haze	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.84	757.9	29.86	758.4	82	27.8	75	SW	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	84	28.9	87	W	21	9.4	.....	2k	0	W	.....	0	0	Fair	
Cape May, New Jersey	29.78	756.4	29.80	756.9	73	22.8	85	W	10	4.5	.....	.....	8s	.....	W	0.30	7.6	Cloudy	
Castroville, Texas	29.18	741.2	29.84	757.9	81	27.2	93	NE	4	1.8	.....	0	2ks	.....	NE	0	0	Fair	
Charleston, South Carolina	29.96	761.0	30.03	762.7	82	27.8	79	W	6	2.7	.....	0	0	.....	.....	0.15	3.8	Clear	
Cheyenne, Wyoming	24.14	613 1	30.08	764.0	61	16.1	31	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.20	741.7	29.86	758.4	72	22.2	67	SW	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Cincinnati Ohio	29.26	743.2	29.88	758.9	76	24.4	82	NW	4	1.8	.....	1k	0	NW	.....	0.12	3.0	Clear	
Cleveland, Ohio	29.14	740.1	29.83	757.7	71	21.7	85	NW	9	4.0	.....	0	0	.....	.....	0.16	4.1	Clear	
Columbus, Ohio	29.07	738.4	29.86	758.4	72	22.2	80	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corpus Christi, Texas	28.08	713.2	29.69	754.1	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	29.98	761.5	78	25.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.31	744.5	29.91	759.7	73	22 8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.22	742.2	29.98	761.5	81	27.2	87	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	67	19.4	46	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.10	739.1	29.93	760.2	77	25.0	65	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear	
Detroit, Michigan	29.18	741.2	29.81	757.2	69	20.6	80	W	4	1.8	.....	0	0	.....	.....	0.41	10.4	Clear	
Dodge City, Kansas	27.38	695.4	29.52	749.8	79	26.1	70	SW	4	1.8	.....	2c	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.20	741.7	29.86	758.4	72	22.2	76	NW	1	0.4	.....	0	Fog	.....	Calm	0	0	Fair	
Duluth, Minnesota	29.22	742.2	29.86	758.4	70	21.1	66	N	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.34	745.2	30.05	763.3	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.75	755.6	29.81	757.2	57	13.9	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	81	27.2	58	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Erie, Pennsylvania	29.12	739.6	29.80	756.9	72	22.2	80	W	6	2.7	.....	5k	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.18	741.2	29.80	756.9	69	20.6	65	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	76	24.4	77	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	25.57	649.5	29.04	752.8	71	21.7	69	SE	2	0.9	.....	10ks	0	SE	.....	0	0	Cloudy	
Fort Davis, Texas	25.27	641.8	30.23	767.8	72	22.2	75	NW	3	1.3	.....	0	0	.....	.....	0.20	5.1	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.94	760.5	82	27.8	73	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.71	729.2	29.92	760.0	78	25.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.81	757.2	81	27.2	78	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.91	759.7	29.95	760.7	84	28.9	87	E	12	5.4	.....	5k	5ks	E	E	0.18	4.6	Cloudy	
Grand Haven, Michigan	29.22	742.2	29.83	757.7	75	23.9	72	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.15	740.4	29.89	759.2	75	23.9	77	NW	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	
Indianola, Texas	29.91	759.7	29.91	760 5	83	28.3	87	NE	15	6.7	.....	5k	1ks	E	Calm	0.02	0.5	Fair	
Jacksboro, Texas	28.85	732.8	29.92	760.0	81	27.2	78	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.05	763.3	30.07	763.8	85	29.4	72	S	1	0.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.30	744.2	29.87	758.7	78	25.6	73	SW	2	0.9	.....	5k	1s	N	Calm	0	0	Fair	
Key West, Florida	30.04	763.0	30.07	763.8	86	30.0	68	E	4	1.8	.....	3cjck;k	2ks	NW;Calm	Calm	0	0	Fair	
Kittyhawk, North Carolina	29.86	758.4	29.88	758.9	82	27.8	83	W	19	8.5	.....	5c	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.04	737.6	30.00	762.0	76	24.4	82	SW	1	0.4	.....	2ck	0	NW	.....	0	0	Clear	
La Crosse, Wisconsin	29.16	740.7	29.86	758.4	71	21.7	75	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	72	22.2	76	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.50	749.3	29.82	757.4	82	27.8	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.85	631.2	30.12	765 0	62	16.7	77	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.03	738.9	29.89	759.2	73	22.8	85	NE	3	1.3	.....	.....	10ks	.....	NW	0	0	Threatening	
Los Angeles, California	29.61	752.1	29.94	760.5	62	16.7	88	W	2	0.9	.....	0	8s	.....	SE	0	0	Cloudy	
Louisville, Kentucky	29.38	746.2	29.91	759.7	79	26.1	66	SE	3	1.3	.....	5c	Sm'e	W	Calm	0	0	Fair	
Lynchburg, Virginia	29.21	741.9	29.86	758.4	75	23.9	72	SW	2	0.9	.....	0	8ks	.....	Calm	0.11	2.8	Cloudy	
Marquette, Michigan	29.13	739.9	29.79	756.7	70	21.1	61	W	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.36	720.3	30.03	762.7	79	26.1	86	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.71	754.6	30.01	762.2	83	28.3	74	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.16	740.7	29.84	757.9	72	22.2	67	NW	9	4.0	.....	0	0	.....	.....	0	0	Cloudy	
Mobile, Alabama	30.06	763.5	30.10	764.5	84	28.9	83	S	3	1.3	.....	2ck	8s	N	SW	0	0	Clear	
Montgomery, Alabama	29.80	756.9	30.05	763 3	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.86	733.0	29.85	758.2	76	24.4	77	SW	4	1.8	.....	0	0s	.....	SW	0.06	1.5	Fair	
Mt. Washington, N. H.	23.69	601.7	30.05	763.3	47	8.3	100	NW	20	8.9	.....	.....	Fog	.....	NW	0.46	11.7	Foggy	
Nashville, Tennessee	29.47	748.5	29.98	761.5	82	27.8	79	W	1	0.4	.....	5k	2s	NW	NW	0	0	Fair	
New Haven, Connecticut	29.64	752.8	29.74	755.4	70	21.1	85	N	1	0.4	.....	0	5ks	.....	W	1.18	30.0	Fair	
New London, Connecticut	29.71	754.6	29.76	755.9	70	21.1	90	Calm	0	0	.....	2k	8s	W	W	1.17	29.7	Cloudy	
New Orleans, Louisiana	30.00	762.0	30.05	763.3	83	28.3	79	NE	4	1.8	.....	2ck	0	E	.....	0.05	1.3	Fair	
Newport, Rhode Island	29.60	754.1	29.74	755.4	69	20.6	85	W	4	1.8	.....	2k	0	W	.....	0.67	17.0	Clear	
New York, New York	29.61	752.1	29.78	756.4	70	21.1	90	SW	5	2.2	.....	8cs	0	SW	.....	1.71	43.4	Fair	
Norfolk, Virginia	29.78	756.4	29.84	757.9	85	29.4	72	SW	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.04	686.8	29.48	748.8	68	20.0	90	SE	20	8.9	.....	5k	0	SW	.....	0	0	Cloudy	
Olympia, Washington Ter.	30.00	762.0	30.04	763.0	61	16.1	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.84	732.5	29.86	758.4	74	23.3	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.42	747.3	29.72	754.9	70	21.1	90	NW	12	5.4	.....	8k	0	W	.....	Inap.	Inap.	Fair	
Pembina, Dakota	29.06	738.1	29.86	758.4	60	15.6	82	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.74	755.4	29.78	756.4	75	23.9	76	NW	12	5.4	.....	1c	0	W	.....	1.96	49.8	Clear	
Phœnix, Arizona	28.74	730.0	.....	.....	85	29.4	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.15	461.0	30.36	771.1	43	6.1	59	NE	8	3.6	.....	5k	0	NE	.....	0.26	6.6	Fair	
Pioche, Nevada	24.17	613.9	29.94	760.5	66	18.9	54	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Pittsburg, Pennsylvania	29.05	737.9	29.82	757.4	73	22.8	81	NW	7	3.1	.....	0	0	.....	.....	0.02	0.5	Clear	
Port Huron, Michigan	29.16	740.7	29.78	756.4	70	21.1	80	W	8	3.6	.....	0	0	.....	.....	0.60	15.2	Clear	
Portland, Maine	29.70	754.4	29.75	755.6	64	17.8	89	SE	3	...	.....	.....	Fog	.....	.....	0.46	11.7	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Oregon	30.00	762.0	30.11	764.8	61	16.1	82	NE	5	2.2	.....	.....	10ks	.....	SW	0	0	Cloudy.	
Prescott, Arizona	24.90	632.4	30.27	768.8	62	16.7	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Punta Rassa, Florida	30.08	764.0	30.09	764.3	81	27.2	78	E	6	2.7	.....	2ck	0	NE	.....	0.04	1.0	Clear.	
Red Bluff, California	29.55	750.6	29.90	759.4	70	21.1	62	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.	
Rochester, New York	29.14	740.1	29.71	754.6	70	21.1	85	W	6	2.7	.....	.....	10s	.....	W	0.02	0.5	Cloudy.	
Roseburg, Oregon	29.54	750.3	30.11	764.8	54.5	12.6	90	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Sacramento, California	29.82	757.4	29.90	759.4	59	15.0	76	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
St. Louis, Missouri	29.40	746.7	29.94	760.5	78	25.6	78	NE	4	1.8	.....	5ck	0	NW	.....	0	0	Fair.	
St. Marks, Florida	30.07	763.8	30.08	764.0	81	27.2	91	W	4	1.8	.....	0	0	.....	.....	0.11	2.8	Clear.	
St. Paul, Minnesota	29.06	738.1	29.85	758.2	66	18.9	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Salt Lake City, Utah	25.64	651.2	29.98	761.5	71	21.7	25	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
San Antonio, Texas	29.18	741.2	29.73	755.1	79	26.1	91	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
San Diego, California	29.92	760.0	29.99	761.7	66	18.9	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy.	
Sandusky, Ohio	29.22	742.2	29.85	758.2	71	21.7	80	W	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear.	
Sandy Hook, New Jersey	29.74	755.4	29.76	755.9	71	21.7	95	NW	8	3.6	.....	.....	10ks	.....	NW	1.14	29.0	Cloudy.	
San Francisco, California	29.92	760.0	29.99	761.7	54	12.2	87	SW	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	65	18.3	44	Calm	0	0	.....	5k	0	Calm	.....	Inap.	Inap.	Fair.	
Savannah, Georgia	29.94	760.5	30.03	762.7	86	30.0	76	SW	8	3.6	.....	0	0	.....	.....	0.78	19.8	Clear.	
Shreveport, Louisiana	29.80	756.9	30.00	762.0	82	27.8	87	Calm	0	0	.....	1c	0	Calm	.....	Inap.	Inap.	Clear.	
Silver City, New Mexico	24.37	619.0	.....	.....	62	16.7	71	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Smithville, North Carolina	29.97	761.2	30.00	762.0	83	28.3	79	W	10	4.5	.....	0	0	.....	.....	0	0	Clear.	
Springfield, Massachusetts	29.57	757.1	29.69	754.1	69	20.6	85	S	1	0.4	.....	5k	0	S	.....	0.16	4.1	Fair.	
Stockton, Texas	26.97	685.0	29.97	761.2	72	22.2	26	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Thatcher's Island, Mass.	29.68	753.9	29.73	755.1	61	16.1	94	Calm	0	0	.....	.....	Fog	.....	Calm	0.12	3.0	Dense fog.	
Toledo, Ohio,	29.19	741.4	29.82	757.4	75	23.9	68	S	8	3.6	.....	0	0	.....	.....	0	0	Clear.	
Tucson, Arizona	27.44	697.0	29.99	761.7	80	26.7	74	Calm	0	0	.....	2cs	0	Calm	.....	0.03	0.8	Fair.	
Tybee Island, Georgia	30.00	762.0	30.03	762.7	82	27.8	83	NW	7	3.1	.....	0	0	.....	.....	0.14	3.6	Clear.	
Umatilla, Oregon	29.67	753.6	.....	.....	61	16.1	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Vicksburg, Mississippi	29.82	757.4	30.07	763.8	80	26.7	91	S	3	1.3	.....	.....	10s	.....	Calm	0.55	14.0	Cloudy.	
Virginia City, Montana	24.40	619.8	29.88	758.9	62	16.7	46	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear.	
Visalia, California	29.56	750.8	29.92	760.0	62	16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Washington, D. C.	29.73	755.1	29.84	757.9	77	25.0	77	NW	11	4.9	.....	2c	2s	W	Calm	0.64	16.3	Fair.	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	
Wilmington, N. Carolina	29.90	759.4	29.98	761.5	81	27.2	78	W	8	3.6	.....	0	Haze	.....	.....	0.12	3.0	Clear.	
Winnemucca, Nevada	25.68	652.3	30.04	763.0	50	10.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Wood's Holl, Mass.	29.68	753.9	29.78	755.1	71	21.7	90	NW	6	2.7	.....	2ck	0	NW	.....	0.14	3.6	Clear.	
Yankton, Dakota	28.67	728.2	29.90	759.4	63	17.2	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Yuma, Arizona	29.64	752.8	29.80	756.9	75	23.9	76	Calm	0	0	.....	5cs	0	Calm	.....	0.20	5.1	Fair.	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.72	754.9	29.77	756.1	54.0	12.2	90	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.02	762.5	30.04	763.0	83	28.3	83	NE	1.2	0.5	.....	8ck	0	NE	.....	0	0	Fair.	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	4	1.8	.....	2c	4s	E	.....	0	0	Clear.	G. O. Gellich.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	81	27.2	83	Calm	0	0	.....	2ck	2s	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	84	28.9	.....	E	7.9	3.5	.....	.....	.....	.....	.....	Blank	Blank	Fair.	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.01	762.2	30.01	762.2	82	27.8	83	E	.....	.....	3	3c	5k	E	.....	0	0	Fair.	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.24	641.1	.....	.....	67.5	19.7	78	Calm	0	0	.....	1cs	0	.....	.....	0.16	4.1	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,600 (?) ft., or 1,096.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,396 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.86 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.24	768.1	84	28.9	84	28.9	83	SE	4	1.8	.....	.....	2	.....	SE	.....	.....	.....	.....	Showery.....	
Navy Yard, Portsmouth, N.H	29.74‡	755.4‡	.....	.....	61	16.1	88	E	1	0.4	.....	.....	10	.....	.....	0.1	3.	.....	.....	Overcast.....	
Naval Hospital, Yokohama, Japan.....	29.80*	759.2*	76.5	24.7	74.9	23.8	95	Calm	.....	.....	0	.....	10s;n	.....	SSW	0.01	0.3	.....	.....	Gloomy.....	
Adams. Pago-Pago.....	29.96	761.0	80	26.7	78	25.6	86	ESE	.....	.....	3	.....	8	.....	SE	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France.....	29.85‡	758.2‡	.....	.....	66	18.9	68	E	.....	.....	1	.....	7	.....	E	.....	.....	.....	.....	Cloudy.....	
Ashuelot. Nagasaki, Japan.....	29.85	758.2	80	26.7	79	26.1	91	WSW	.....	.....	3	.....	5	.....	WSW	.....	.....	.....	.....	Clearing.....	
Canonicus, New Orleans, La.....	30.09	764.3	67	13.9	82	27.8	83	SE	.....	.....	1	.....	3	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.....	29.73‡	755.1‡	.....	.....	71	21.7	85	SW	3	1.3	....	.....	5	.....	SW	1.56	39.6	.....	.....	Light fog.....	
Constitution, Havre, France.....	29.82‡	757.4‡	.....	.....	69	20.6	70	NE	.....	.....	4	.....	4	.....	NE	.....	.....	.....	.....	Pleasant.....	
Despatch, N. 39° 36′ 30″, E. 25° 16′...	29.72‡	754.9‡	.....	.....	73	22.8	68	W	.....	.....	4	.....	2	.....	WSW	.....	.....	Mod'ate	W	Clear.	
Franklin, Norfolk, Va.....	29.99	761.7	83	28.3	82	27.6	87	SW	4	1.8	.....	.....	8	.....	S	0	0	.....	.....	Fair.....	
Gettysburg Villefranche, France.....	29.71‡	754.6‡	.....	.....	76	24.4	86	S	.....	.....	1	.....	8	.....	Calm	0	0	Light	S	Cloudy.....	
Hartford, Rio de Janeiro, Brazil ...	30.37	771.4	.....	.....	72	22.2	71	NNW	3.0	1.3	.....	.....	2	.....	NNW	0	0	.....	.....	Clear	
Marion, Villefranche, France	29.76	755.9	76	24.4	75	23.9	64	S	.....	.....	1	.....	10	.....	SW	0	0	Smooth	S	Cloudy.....	
Michigan, Detroit, Mich.....	29.49	749.0	73	22.8	75	23.9	77	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy. Yokohama, Japan	29.86‡	758.4‡	.....	.....	76	24.4	95	SW	.....	.....	0–1	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.22†	767.6†	.....	.....	81	27.2	87	WSW	9	4.0	.....	.....	.....	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.10†	764.5†	.....	.....	61	16.1	82	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.65	753.1	81	27.2	76	24.4	95	SE	.....	.....	2	.....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
Pensacola, Mare Island, California	30.00	762.0	59	15.0	54	12.2	93	SSW	10	4.5	.....	.....	5	.....	SSW	.....	.....	.....	.....	Cloudy.	
Plymouth. New York, N. Y.....	29.75‡	755.6‡	.....	.....	72	22.2	90	WSW	.....	.....	2	.....	8	.....	W	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	29.96	761.0	82.5	28.1	83	28.3	91	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Raining	
Rio Bravo. Brownsville, Texas.....	29.89	759.2	80	26.7	79	26.1	95	SW	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	29.81‡	757.2‡	.....	.....	78	25.6	73	NW	.....	.....	1	.....	8	.....	NW	0.17	4.3	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.78	756.4	73	22.8	73	22.8	90	SW	6	2.7	.....	.....	2	....	S	0.93	23.6	.....	.....	Fair.....	
Supply, Havre, France.....	29.88	758.9	67	19.4	70	21.1	61	E	.....	.....	3–4	.....	5	.....	E	.....	.....	.....	.....	Fair	
Swatara, Boston, Mass.....	29.72‡	754.9‡	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Foggy	
Trenton, N. 45° 54′, W. 7° 15′.....	29.67‡	753.6‡	.....	.....	65	18.3	89	NE	.....	.....	3	.....	10	.....	N;E	0.5	13.	.....	.....	Rain & fog...	
Tuscarora, N. 16° 29′, W. 99° 02′.....	29.73	755.1	76	24.4	77	25.0	86	N	.....	.....	2	.....	8	.....	N	1.3	33.	Mod'ate	N	Cloudy.....	
Vandalia, N. 37° 53′, E. 15° 57′.....	29.90‡	759.4‡	.....	.....	77	25.0	69	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	Smooth	.....	Clear	
Wabash, Boston, Mass.....	29.71‡	754.6‡	.....	.....	66	18.9	94	SE	2	0.9	.....	.....	10	.....	Calm	0.02	0.5	.....	.....	Foggy	
Wyoming, N. 42° 30′, W. 59° 34′.....	29.82†	757.4†	.....	.....	67	19.4	95	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	Chop	.....	Foggy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 36° 54', E. 146° 16'		30.03*	762.7*	73	22.8	100	ESE			3		9		E	6 hours	Mod'ate	NE	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 35° 10', W. 123° 30'		30.05*	763.3*				NW			3		Fog				Smooth	NW	Dense fog	Capt. Seabury.
S. S. City of Peking, N. 35° 26', E. 172° 23'		30.09†	764.3†	72	22.2	100	ESE	20	8.9			10		ESE	Light	Small	ESE	Overcast	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 47° 02', W. 125° 04'		30.04†	763.0†	60	15.6	65	N			1		9		SE	0	Small	NW	Foggy	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Granada																			Capt. Austin.
S. S. Wilmington, N. 29° 44' W. 142° 24'		30.48‡	774.2‡	72	22.2	95	NE			6		8		ENE	0	Mod'ate	NE	Fine	Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 51° 9', W. 24° 8'		29.68*	753.9*	63	17 2	94	N			6				S	2 hours	Slight	SSE	Misty	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 37° 52', W. 125° 24'		29.92*	760.0*	57	13.9	100	NW			5		Fog		WNW		Rough	NW	Misty	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 46° 52', W. 33° 46'		29.93	760.2	69	20.6	59	NNE			4-5		5		NE		4	NNE	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 39° 10', W. 71° 53'		29.61*	757.2*	62	27.8	88	Calm			0		0			Light	Light	WNW	Clear	Captain Sargent.
S. S. Ohio. N. 51° 27', W. 15° 23'		29.91	759.7	80	26.7	74	E			4		0			0	Small	Confused.	Hazy	Captain Morrison. Captain Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Rundle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.23*	767.8*	47.0	8.3	66	Calm			0	3c	0	W					Clear.	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 3, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
10:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:18 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:28 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			Dr. Ollive.
Nemours			29.95	760.8	81.9	27.7	94	NNW			1		0			0	0	Clear	Kesxuche.
Algiers			29.85	758.3	85.6	29.8	43	NNW			8		5			0	0	Cloudy	Tourillere.
La Calle			29.89	759.3	80.2	26.8	71	NE			3		8			0.118	3.0	Very cloudy	Foufrede.
Tunis			29.90	759.5															Jacques.
Sfax			29.95	760.7	89.6	32.0		E			4		1			0	0	Very fair.	Gau.
Saida			30.01	762.3	86.5	30.3	21	WNW			2		0			2.204	56.0	Clear	Herbin.
Tebessa			29.92	759.9	97.2	36.2		SSW			5		6			Inap.	Inap.	Cloudy	Watrin.
Geriville			30.00	761.9	87.8	31.0	74	WSW			2		0			0.472	12.0	Clear	Brugniaux.
Laghouat			29.96	760.9	94.3	34.6	28	Calm			0		1			0	0	Very fair	Bertrand.
Biskra			29.87	758.8	100.8	38.2	27	NW			1		2			0	0	Fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 899? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.30	744.3	29.84	757.8	71.1	21.7	74	NE			1		7			0.890	22.6	Raining	Prof. Ivan Stoza.
Cracow	29.13	740.0	29.85	758.3	75.6	24.2	60	E			5		3			0.004	0.09		Prof. Dr. Karlinski.
Eperies	29.00	736.7	29.84	757.9	77.4	25.2	64	Calm			0		5cs			0	0		Julius Mikolik.
Gratz	28.62	727.0	29.82	757.5	69.1	20.6	71	SSE			2		5			0	0		Andreas Rospini.
Hermannstadt	28.46	722.9	29.82	757.5	73.6	23.1	64	NW			1		3			0	0		Prof. Reissenberg
Kremtmünster	28.27	718.1	29.54	750.3	73.0	22.8	67	SE			3		6			0	0		Prof. C. Wagner
Lemberg	28.93	734.8	29.87	758.8	74.7	23.7	59	SE			1		3			0	0		Dr. T. Stanecki.
Pola	29.05	703.1	29.76	755.8	73.8	23.2	74	SE			6		10s			0	0		I.R.Hydrographic Office
Szathmar	29.45	748.0	29.89	759.3	75.9	24.4	62	SW			3		2			0.008	0.2		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.09	754.2	29.80	756.6	72.3	22.4	66	SE			1		10			1.925	48.9	Thunder-storm.	P. Busin.
Vienna	29.10	739.2	29.79	756.6	72.9	22.7	52	SE			3		1			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.24	717.3	29.71	754.6	61.5	16.4	70	E			2		10			0	0		Prof. M. Passau.
Brussels	29.47	748.5	29.66	753.4	66.7	19.3	66	E			2	4	5	SE	SE	0.602	0.05		Royal Observatory
Furnes	29.07	738.6	29.69	754.2	68.9	20.5	64	ESE			1		6			0	0		M. E. de Caé.
Maeseyck	29.59	751.6	29.72	754.8	66.6	19.2	73	E			2		7			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

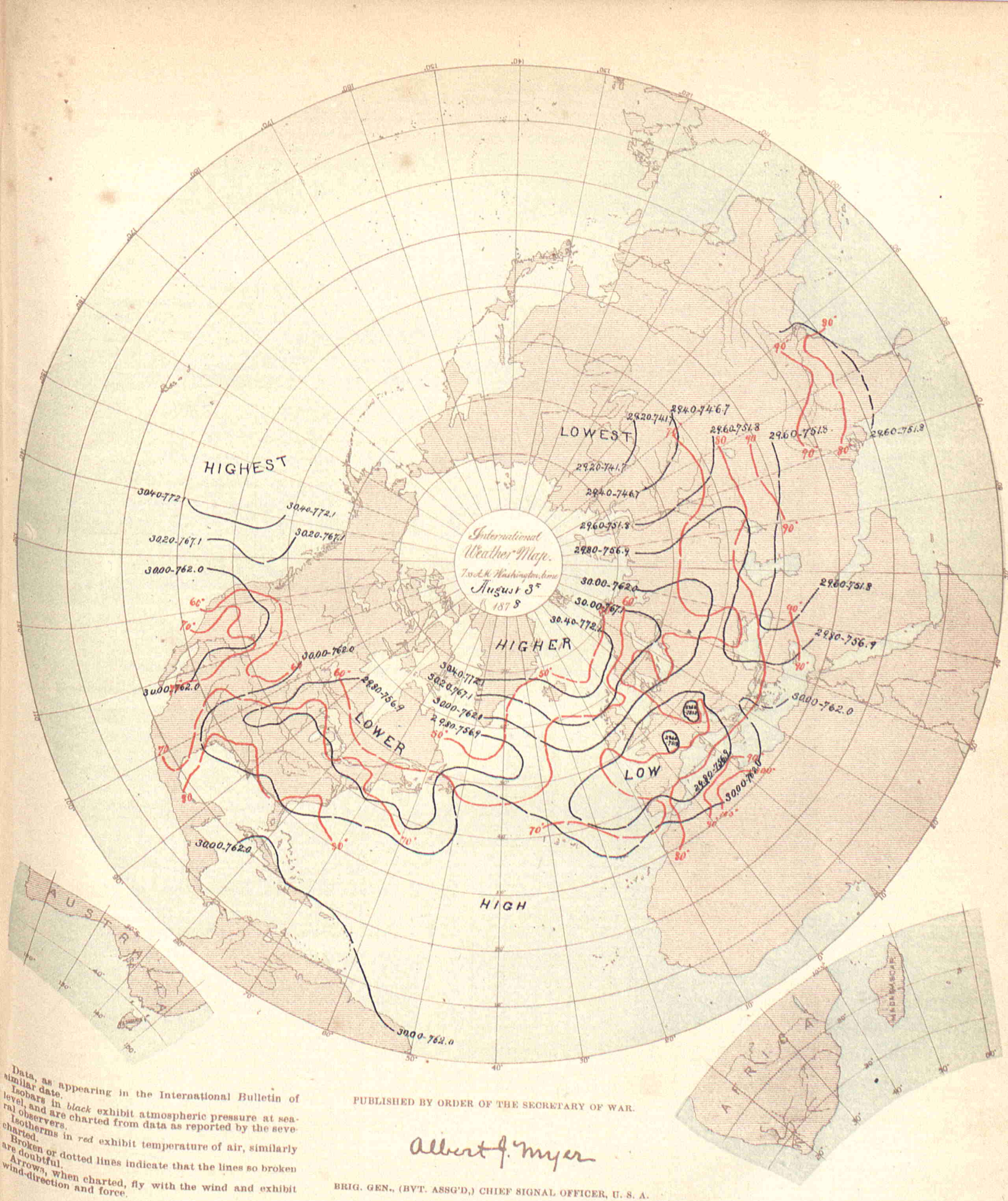
Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.05	763.3	30.15	765.8	61.0	16.1	.....	NE	17	7.6	.....	.....	1	.....	.....	0	0	Blue sky	W. Boswell.
Ardrossan	30.00	762.0	30.02	762.5	73	22.5	.....	NE	.....	.....	5	.....	6	.....	.....	.....	.....	Misty	George Carrick.
Armagh, Observatory	.....	.....	29.98	761.5	67.2	19.6	.....	NE	14	6.3	.....	.....	3	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.84	757.9	60.8	16.0	.....	NE	15	6.7	.....	.....	10	.....	.....	.....	.....	Raining	John Hartnup.
Birr Castle, (Parsonstown)	29.74	755.4	29.93	760.2	68.8	20.4	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.46	748.3	29.55	758.2	60.4	15.8	.....	E	.....	.....	5	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761 5	30.01	762.2	85.5	29.7	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.71	754.6	69.5	20.8	.....	E	.....	.....	2	.....	7	.....	.....	Blank	Blank	Thunder	H. Todd. [H.O.
Cardington	.....	.....	29.73	755 1	69.0	20.6	.....	E	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds	John McLaren.
Chatham, School M. E.	29.55	750.6	29.68	753.9	60.2	15.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.28	718 3	29.70	754.4	65.0	18.3	.....	E	.....	.....	4	.....	7	.....	.....	.....	.....	Showery	Alexander Watt. [Col. Mar-
Donaghadee	29.95	760.7	29.98	761.5	63	17.2	.....	NNE	.....	.....	6	.....	2	.....	.....	.....	.....	D. clouds	J. Mac Gowan. [din, R. E.
Dover	29.65	753.1	29.68	753.9	65	18.3	.....	E	.....	.....	3	.....	6	.....	.....	.....	.....	¾ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	29.81	757.2	61.1	16.2	.....	NE	0.2	0.1	.....	.....	10	.....	.....	.....	.....	Showery	Thomas Mackereth.
Falmouth, Observatory	29.52	749.8	29.74	755.4	62.8	17.1	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	28.07	713.0	30.34	770.6	54.0	12.2	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.87	758.7	30.10	764.5	76	24.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Raining	.....
Galway, Queen's College	.....	.....	29.90	759.4	73	22.5	.....	ENE	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.88	758.9	29.93	760 2	79.3	26.3	.....	W	.....	.....	6	.....	3	.....	.....	.....	.....	D. clouds	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.83	757.7	30.03	762.7	68.9	20.5	.....	ENE	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.76	755.9	29.76	755.9	62	16.7	.....	ENE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.53	750.0	29.70	754.4	60.2	15.7	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder-storm.	The Staff, for G. B. Airy.
Guernsey	29.44	747.8	29.66	753.4	65	18.3	.....	NE	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.80	756.9	65	18.3	.....	NE	.....	.....	2	.....	4c	.....	.....	0	0	.....	M. P. Moyle.
Holyhead	29.82	757.4	29.87	758.7	63	17.2	.....	NE	.....	.....	5	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.48	748.8	29.77	756.1	65.3	18.6	.....	NE	.....	.....	5	.....	5	.....	.....	Blank	Blank	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	29.71	754.6	69.8	16.4	.....	NE	7	3.1	.....	.....	10	.....	.....	.....	.....	Raining	The Staff.
Kingstown	29.90	759.4	29.93	760.2	63	17.2	.....	NE	.....	.....	6	.....	8	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.73	755.1	66.2	19.0	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.81	757.2	29.88	758.9	81	27.2	.....	SE	.....	.....	1	.....	3ck	.....	.....	.....	.....	D. clouds	H. J. Becket, A. H. C.
Nairn	30.10	764.5	30.19	766.8	59	15.0	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	85.8	29.9	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.59	751.6	29.78	756.4	62.7	17.1	.....	NE	.....	.....	5	.....	10d	.....	.....	ENE	0.777	19.74	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.23	742.4	29.74	755.4	62.9	17.2	.....	NNE	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.72	754.9	67	19.4	.....	N	.....	.....	1	.....	10	.....	.....	Blank	Blank	Thunder	H. E. Bellamy.
Plymouth	29.64	752.8	29.72	754.9	67.8	19.9	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield
Roche's Point	29.86	758.4	29.90	759.4	66	18.9	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.61	752.1	29.77	756.1	64	17.8	.....	NNE	.....	.....	3	.....	7	.....	.....	.....	.....	Squally	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	30.22	767.6	58.5	14.7	.....	NE	15	6.7	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.83	757.7	71.6	22.0	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	Gloomy	Sergt. W. H. Lyne.
Sheffield	29.57	751.1	29.84	757.9	60.1	15.6	.....	NE	.....	.....	2	.....	10	.....	.....	0.21	5.3	Overcast	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.95	760.7	65.3	18.5	56	E	.....	.....	5	.....	5	.....	.....	0.470	11.94	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.45	748.0	29.85	758.2	60.0	15.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	W. C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C. (Hebr.)	30.12	765.0	30.15	765.8	59	15.0	.....	ENE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.20	767.1	59	15.0	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.79	756.7	71	21.7	.....	S	.....	.....	5	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	29.89	759.2	70.7	21.6	.....	NE	17	7.6	.....	.....	6	.....	.....	.....	.....	Misty	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	28.95	735.3	68.0	17.2	93	S	.....	.....	2	.....	10kn	.....	.....	0.10	2.5	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.98	761.5	30.18	766.4	73.1	22.8	56	E	6.0	2.7	.....	2	8	.....	.....	0	0	Cloudy; fine	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	48.6	9.2	92	WSW	13	5.8	.....	.....	10	.....	.....	0.07	1.8	Misty	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria				
N. 42° 0′ W. 54° 10′	10*	E	Foggy	Capt. W. Watson.
S. S. Batavia				Capt. J. E. Mouland.
Ship Camperdown				Capt. A. T. Miller.
Brig Catherine,				
N. 61° 12′, W. 48° 10′			Raining	Capt. Alex. Wilson.
Barque Celeste				
Barque Commewyne				Capt. A. Buchan.
S. S. Don				A. S. Thomson.
S. S. Gordon Castle				Capt. W. Waring.
S. S. Hibernia				Capt. W. R. Cato
Barque Margaret Smith				Capt. D. W. A. Quaile
Barque Maroon				Capt. A. T. Brown.
Ship Mikado				Capt. C. C. Prehn.
S. S. Naid				Capt. J. Smith. [B.
S. S. Peruvian,				
N. 56° 10′, W. 14° 10′	2	ESE	Blue sky	Capt. W. H. Smith, R. N.
Royal Alice				Capt. E. M. Hughes.]
S. S. Seine				Capt. H. Manning.
Barque Sorata				
Schooner Traveller,				
N. 43° 30′, W. 61° 0′	3		Foggy	Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.
S. S. Yorkshire				Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.29	667.8			64.8	18.2	93	SE			2	8cs				Inap.	Inap.		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.99	761.7	30.04	762.9	71.8	22.1	62	E			4		0						
Fanöe	29.90	759.5	29.92	760.0	75.7	24.3	58	ENE			6		2						
Godthaab, (Greenland)	30.04	762.9	30.08	764.0	49.3	9.6	71	NNE			4		0						
Stykkisholm, (Iceland)	30.26	768.5	30.30	769.6	59.0	15.0	74	SE			2		5						
Thorshavn, (Faröe)	30.36	771.2	30.40	772.1	52.0	11.1	76	E			2		10						
Vestervig	29 85	768.3	30.02	762.6	76.6	24.8	61	NE			6		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.14	740.1	29.69	754.1	61.5	16.4	85	NE			1		8			0.134	3.40	Very cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.69	751.8	29.68	753.8	71.6	22	69	NW			1		5			2.40	61.	Cloudy	M. Girard, Director.
Bar-sur-Seine	29.08	738.5	29.60	751.9	73.2	22.9	42	E			1		2k		W	0	0	Slightly cl'dy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.39	740.6	29.67	753.6	69.3	20.7	58	ENE			1		10		ESE	0	0	Covered	Frere Eugene Marie, Director.
Besançon	28.82	731.9	29.82	757.5	70.7	21.5	63	SE			2		10			0	0	Covered	Normal School.
Bourg-en-Bresse, N. School	28.84	732.4	29.76	755.9	74.7	23.7	53	SW			1		5k		S	0	0	Cloudy	M. Marlot, Director.
Bourges, Normal School	29.06	738.1	29.60	751.7	68.0	20	68	NE			1		5k		NE	0	0	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.41	747.1	29.66	753.9	64.4	18.0	74	N			3		10		N	0	0		The Staff.
Carcassonne, Normal School	29.29	743.9	29.69	754.0	76.5	24.7	57	N			2		2	NW		0.650	16.5	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.04	737.7	29.60	751.7	60.1	15.6	98	NW			2		10			0.75	19.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.25	743.0	29.56	750.7	73.0	22.8	60	S			2		5	S	S	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.30	718.7	29.60	751.8	72.7	22.6	51	W			2				SW	0	0		Allnard, Director.
Commercy, Normal School	28.82	732.1	29.67	753.5	66.6	19.2	70	ESE			1		8k		ESE	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.63	727.3	29.78	756.3	73.4	23.0	53	W			2		8		SW	0.598	15.2	¾ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.44	747.8	29.65	753.0	74.1	23.4	54	E			1		5		W	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.36	745.8	29.66	753.4	65.7	19.7	66	SW			4		8		SW	0.08	2.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.79	731.3	29.67	753.5	73.2	22.9	47	W			1		5		E	0.157	0.40	Cloudy	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					74.1	23.4	66	SE			3		5		SE	0	0	Cloudy	M. Galzin, Director.
Mirecourt, Normal School	28.67	728.2	29.68	753.8	66.0	18.9	70	NE			1		1k		SW	0	0	Clear	M. Barbier, Director.
Nismes, Normal School	29.47	748.4	29.68	753.8	73.8	23.2	65	SW			2		5		S	1.22	31.	Cloudy	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	28.67	728.3	29.70	754.4	69.4	20.8	75	S			1		n	S	S	0.413	10.5		M. Cantier.
Puy de Dome (Summit)	24.90	632.5			50.7	10.4	92	SW			2					0	0	Stormy	Allnard, Director.
Rochefort, Naval Obs'y	29.62	752.3	29.65	753.1	79.9	26.6	39	W			3		0			0	0	Clear	M. Giguel, Director.
Rouen, Normal School	29.58	751.4	29.67	753.6	62.6	17.0	69	NE			1		10		E	0.315	8.0	Covered	F. Lucard, Director.
Saint Malo (Port)			29.61	752.2	65.7	18.7	66	E			2		1		NE	0.037	0.94	Clear	M. H. Hercouet.
Tarbes, Normal School	29.08?	738.7?	30.12?	765.1?	75.2	24	53	SW			2		5		W	0	0	Cloudy	T. Huguet, Director.
Villefranche, Normal School	28.98	736.0	29.65	753.2	78.3	25.7	61	ESE			1		2		E	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.3	29.92	760.0	79.5	26.4										0	0		L'Abbé Marchés.
Lyons			29.70	754.4	71.2	21.8	53						6			0	0		L. Jays.
Marseilles, Observatory			29.69	754.2	69.8	21.0	70	W			2		2			0.079	2.00		The Staff.
Mont-Louis	24.61	625.2	29.89	759.2	56.3	13.5	72	ENE	9.3	4.17			5			0.449	11.4		M. Cave.
Nice			29.63	752.7	75.9	24.4	76	SSW			6		1			1.280	32.5		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.36	745.8	29.64	752.8	62.8	17.1	73	NW			3		10		S	Inap.	Inap.	Sprinkling	Marié Davy, Director
Perpignan			29.72	754.8	68.5	20.3	70	SE	5.6	2.50			8		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.37	568.1			41.7	5.4		W			3		10			0.087	2.2	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.47	748.6	29.64	752.8	65.8	18.8	64	NW			1		10		S	0.035	0.9		E. Renou.
Toulouse, Observatory	29.03	737.4	29.75	755.6	72.9	22.7	54	W			3		8			0	0		The Staff.
Tours	29.45	748.0	29.65	753 0	63.5	17.5	76	ENE			1		10		W	0	0		C. Marquet.
Versailles, (near Paris)			29.67	753.5	62.2	16.8	66	NE			1		10			0.010	0.25	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.66	753.4	29.69	754.0	80.6	27.0	92	SW	5.8	2.6			7kn			0.102	2.6	Cloudy	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Barometer. Corrected for instru-m'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.80	73.16	29.04	752.8	72.5	22.5	59	E			4		6	E		0	0		Prof. Dr. Hoh.
Berlin	29.66	753.4	29.83	757.6	76.3	24.6	57	SE			1		4			0.480	12.2		Prof. Arndt.
Breslau	29.38	746.2	29.91	759.6	78.1	25.6	59	SE			3		6			0.163	4.13	Raining.	Royal University Obs'y
Carlsruhe	29.24	742.8	29.66	753.3	63.0	17.2	92	NW			1		10			0.118	3.0		Albert Senz.
Cassel	29.13	740.0	29.74	755.3	73.8	23.2	53	E			3		5	E		0	0		Dr. H. Möhl.
Crefeld	29.51	749.6	29.67	753.7	67.1	19.5	72	E			2		9			0.16	4		Director Lose.
Emden	29.68	753.9	29.72	754.9	74.7	23.7	64	E			5		5			0.185	4.7		Prof. Prestel.
Frankfort on the Main	29.36	745.7	29.71	754.5	73.4	23		E			1		10			Inap.	Inap.		Physical Society.
Friedrichshafen	28.27	718.1	29.66	753.3	65.3	18.5	71	WNW			2		10	W		0.193	4.9		M. Wilhelm.
Hamburg	29.78	756.3	29.84	758.0	73.9	23.3	68	E			5		3k			1.803	45.8		Captain F. Hegemann.
Kiel	29.87	758.7	29.89	759.1	73.4	23.0	66	ENE			5		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	28.98	761.6	30.07	763 6	80.2	26.8	45	E			2		2			0.004	0.1		Prof. E. Luther.
Köslin			29.95	760.7	79.5	26.4		SE			4		2			0	0		H. Müller.
Leipsic, Observatory	29.36	745.7	29.76	755.9	75.4	24.1	52	E			4		6	ESE		0.020	0.5		Prof. Bruhns.
Memel, Naval School	30.06	763.4	30.10	764.6	75.2	24.0	51	NW			1		7s						Reinbrecht and Skalweit.
Neufahrwasser	30.04	763.1	30.06	763.5	72.0	22.2	70	NE			3		2	E		0	0		A. Lothes.
Posen	29.71	754.6	29.98	761.6	77.5	25.3	46	E			6		3			0	0		Dr. Magener.
Strassburg (in Alsace)	29.16	740.7	29.70	754.3	61.0	16.1	90	S			1		10	W				Raining	Astronomical Observatory.
Stuttgart	28.73	729.7	29.64	752.8	63.9	17.7	78	N					10			0.091	2.3	Rainy	Prof. Schoder.
Treves, (Trier)	29.06	738.2	29.58	751.3	64.9	18.3	82	E			4		10			0.006	0.15		Prof. Flesch.
Weissenburg, (Bavaria)	28.16	715.3	29.60	751.9	72.0	22.2	53	E	6.5	2.9			10	SE		0	0	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.93	760.2	29.97	761.2	74.5	23.6	66	ENE			5		3			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	750.8	29.93	760.3	83.3	28.5		SW			3.0		ck					Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee													9	ESE	SE	0	0	Thunder	
Deesa	29.06	738.1	29.53	749.9	88.3	31.3	79	Calm					10		SW	1.68	42.7	Raining	
Bombay	29.52	749.8	29.56	750.8	79.1	26.2	98	SSW	12	5.4			10		WSW	0.19	4.8	Overcast	
Poona	27.61	701.2	29.60	751.9	75.3	24.1	86	SSW					8	N	E	0.14	3.6	D. clouds	
Lahore	28.82	732.0	29.55	750.5	85.0	29.4	79	SE	3	1.3			10		W	1.68	42.7	Raining	
Belgaum	27.14	689.4	29.69	754.2	69.9	21.1	96	W	12	5.4									
Bangalore													2			0	0		
Roorkee	28.64	727.5	29.51	749.6	91.8	33.2	59	SW	3.4	1.5			4		E	0	0		
Agra	28.98	736.2	29.53	750.2	88.2	31.2	75	E											
Trichinopoly													10			1.29	32.8	Drizzling	
Nagpur	28.46	722.8	29.49	749.0	78.6	25.9	91	W	4.2	1.9									
Madras													8	W		0	0	D. clouds	
Lucknow													10	E	E	0.05	1.3	Overcast	
Allahabad	29.19	741.5	29.49	749.1	90.3	32.4	65	E	4	1.8			10	W	E	0.17	4.3	Thunder-storm	
Patna	29.35	745.6	29.53	750 2	83.6	28.7	89	E	1.1	0.5			8		E	1.40	35.6	Showery	
Hazaribagh	27.54	699.4	29.53	750.1	77.8	25.4	89	ENE	11.4	5.1			8	E	E	0	0	D. clouds	
Cuttack	29.38	746.1	29.46	748.2	85.0	29.4	76	ESE	4.0	1.8			10		SE	0	0	D. clouds	
Calcutta (Alipore)	29.52	749.8	29.54	750.4	84.0	28.9	87	E	5.0	2.2			4			0	0	Misty	
Goalpara	29.22	742.3	29.61	752.0	83.5	28.6	84	SW	4.4	1.8			9	W	W	0	0	D. clouds	
Chittagong	29.58	751.2	29.67	753.6	84.4	29.1	79	SE											
Sibsagar	29.25	742.8	29.57	751.1	89.3	31.8	71	NE	2.3	1.0			7			0.55	14.0	D. clouds	
Rangoon																			
Jubbulpore	28.14	714.8	29.48	748.9	83.8	28.8	72	E	1.2	0.5									

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.39	746.5	29.78	756.5	64.6	18.1	79	N	2.5	1.1	.....	.....	10	.....	.....	0.272	6.9	.....	Prof. Giovanni Clodig.
Padua	29.67	753.6	29.78	756.3	64.4	18.0	79	NNE	10.1	7.2	.....	.....	10	.....	.....	0.417	10.6	.....	Prof. Dott. Lorenzoni
Vicenza	29.59	751.6	29.78	756.3	65.8	18.8	94	N	5.6	2.5	.....	.....	8	E	.....	0.795	20.2	.....	Cont. Alm. Da Schio.
Bergamo	28.39	721.0	29.65	753.2	69.1	20.6	68	NE	.....	.....	2	.....	8	.....	.....	0.126	3.2	.....	Prof. Trionfini Carlo.
Milan	29.13	739.8	29.62	752.3	69.6	20.9	75	E	.....	.....	6	.....	10	SE	.....	0.299	7.6	.....	Prof. Schiaparelli.
Moncalieri	28.70	729.0	29.58	751.2	68.0	20.0	80	NNW	4.3	1.9	.....	.....	9	SE	.....	0.811	20.6	.....	Prof. P. F. Denza.
Mondovi	27.76	705.2	29.60	751.8	71.2	21.8	66	N	.....	.....	2	.....	7	ESE	.....	0.398	10.1	.....	Prof. D. C. Bruno.
Porto Maurizio	29.43	747.6	29.65	753.0	73.0	23.1	71	SW	.....	.....	6	.....	6	SW	.....	1.126	28.6	.....	Prof. L. Vassallo.
Genoa	29.50	749.4	29.67	753.6	73.4	23.0	74	S	.....	.....	4	.....	8	S	.....	1.642	41.7	.....	Prof. G. M. Garibaldi.
Parma	29.42	747.3	29.72	754.9	65.8	18.8	90	NE	.....	.....	8	.....	10	.....	.....	1.965	49.9	.....	Prof. P. Pigorini.
Florence	29.47	748.4	29.71	754.6	75.2	24.0	76	E	.....	.....	2	.....	9	SW	.....	0.059	1.5	.....	Cav. F. Meucci.
Leghorn	29.60	751.7	29.67	753.7	77.5	25.3	78	SW	14.3	6.4	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.69	754.0	29.78	756.2	69.8	21.0	95	E	.....	.....	.....	.....	10	N	.....	0.138	3.5	.....	Prof. Luigi Guidi.
Urbino	28.26	717.7	29.76	755.8	69.1	20.6	86	SW	.....	.....	1	.....	10	.....	.....	0.394	10.0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.62	752.3	29.79	756.6	78.3	25.7	67	S	24.2	10.8	.....	.....	9	.....	.....	0.098	2.5	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.68	753.8	29.87	758.7	79.0	26.1	52	S	.....	.....	2	.....	9	SSW	.....	0.441	11.2	.....	Prof. L. Palmieri.
Lecce	29.69	754.1	29.93	760.3	74.8	23.8	67	SSW	3.8	1.7	.....	.....	9	SW	.....	0.047	1.2	.....	Prof. C. De Giorgi.
Cagliari	29.58	751.3	29.76	756.0	83.8	28.8	55	SE	.....	.....	2	.....	5	W	.....	0.236	6.5	.....	Prof. A. Pacinotti.
Cosenza	29.62	737.1	29.86	758.5	80.6	27.0	68	SW	0	0	.....	.....	6	.....	.....	0.154	3.9	.....	Prof. F. D. Conti.
Palermo	29.60	751.7	29.84	757.9	95.5	35.3	28	N	9.4	4.2	.....	.....	8	.....	.....	0.008	0.2	.....	Prof. G. Cacciatore.
Syracuse	29.11	739.3	29.97	761.2	82.9	28.3	64	SW	.....	.....	6	.....	9	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.34	745.2	29.89	759.3	74.8	23.8	67	NE	0.8	0.3	.....	.....	8	NW	.....	0.150	3.8	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.68	753.9	29.87	758.7	80.1	26.7	88	SSW	9.5	4.2	.....	.....	1s	.....	.....	0.025	0.64	Fair	
Tokei (Yeddo) Observatory	29.62	752.3	29.68	753.9	77.0	25.0	93	SW	8.3	1.5	.....	.....	10ks;s	.....	.....	0.120	3.05	Cloudy	I. Arai, Director.
Tokei (Yeddo) University	29.57	751.1	29.66	753.4	77.7	25.4	95	S	14.5	6.5	.....	.....	10s	.....	.....	0.77	19.6	Cloudy	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	.....	.....	.....	.....	64.0	17.8	87	W	1.8	0.8	.....	3ck	4s	.....	SE	2.02	51.2	Cloudy	Prof. V. Fernandez
Guanajuato	25.10	637.5	30.05	763.3	59.0	15.0	82	NE	0.9	0.4	.....	0	9	.....	SE	0	0	Cloudy	Prof. M. Leal.
Leon	23.73	602.8	29.88	759.0	66.2	19.0	63	Calm	0	0	.....	9	0	.....	.....	0	0	Cloudy	Central Observatory.
Mexico	24.80	619.4	29.88	759.0	66.2	19.0	84	SSE	5.1	2.3	.....	0	10n	.....	SW	0	0	Covered	N. N.
Orizaba	23.13	587.4	30.09	764.4	57.2	14.0	90	Calm	0	0	.....	2ck	2k	.....	N	0.24	6.0	½ cloudy	I. Orozco, M. D.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, M. E
Pabellon, (Aguascalts)	.....	.....	.....	.....	65.8	18.8	81	Calm	0	0	.....	0	5k	.....	SE	0	0	½ cloudy	Prof. R. Gonzales.
Puebla	23.37	593.5	29.97	761.3	57.0	14.4	93	E	2.2	1.0	.....	0	9k	.....	SE	0.46	11.7	Cloudy	Prof. C. Velasquez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
Tlacotalpam	29.02	769.9	29.93	760.2	78.8	26.0	83	S	1.8	0.8	.....	10cs	0	.....	.....	0	0	Covered	G. Barroeta, M. D.
San Luis Potosi	24.25	615.2	30.10	766.7	62.0	16.7	56	ESE	0.9	0.4	.....	2	2	W	E	0.06	1.4	Hazy	Very cloudy
Vera-Cruz	29.94	760.5	29.97	761.1	82.4	28.0	81	Calm	0	0	.....	0	9sk	.....	SE	0	0	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	60.8	16.0	82	NE	5.1	2.3	.....	3	4	NE	E	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	590.9	29.93?	761.9	57.2	14.0	79	ENE	1.1	0.5	.....	3	2	S	.....	0.49	12.5	½ cloudy	Prof. P. Spina, [M.M. D. D
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.3	30.01	762.3	80.6	27.0	29	SE	0.9	0.4	.....	2	4	NE	SE	0.08	2.1	½ cloudy	R. Banda, C. E.
San Juan E. Michapam	29.72	754.8	29.86	758.5	78.8	26.0	.....	Calm	0	0	.....	2cs	0	.....	.....	0	0	Clear	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.8 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,013.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,366.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The Instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.70	754.3	29.70	754.3	75.7	21.4	.....	ESE	.....	.....	4	.....	.....	.....	.....	0.197	5.0	.....	
Groningen	29.78	755.2	29.79	756.6	70.7	21.5	.....	E	.....	.....	4	.....	.....	.....	.....	0.386	9.8	.....	
Helder	29.74	755.4	29.74	755.4	65.7	18.7	.....	ENE	.....	.....	4	.....	.....	.....	.....	0.063	1.6	.....	
Hellevoetsluis	29.70	754.4	29.70	754.4	68.0	20.0	72	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.69	754.0	29.73	755.2	67.8	19.9	64	ESE	.....	.....	4	.....	5	.....	.....	0.051	1.3	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter; at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.13	765.4	30.19	766.8	72.0	22.2	47	WNW	11.4	5.1	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.35	770.9	30.39	771.9	57.2	14.0	65	N	27	12	.....	.....	0	.....	.....	0	0	.....	
Christiania	30.01	762.2	30.15	765.7	62.0	27.8	34	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.29	769.3	30.33	770.4	48.2	9.0	71	W	7	3	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.83	757.7	30.02	762.4	72.9	22.7	84	S	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.91	734.2	29.92	760.0	66.2	19.0	92	SW	4.3	1.9	.....	.....	10	SW	.....	0.118	3.0	Light rain...	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.92	760.0	30.01	762.2	74.1	23.4	80	SW	7.4	3.3	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.51	749.6	29.87	758.6	68.0	20.0	93	SW	23.7	10.6	.....	.....	10	.....	.....	0.110	2.8	.....	The Staff.
Ponta Delgada, (Azores)	29.95	760.6	30.01	762.3	77.4	25.2	51	NE	9.8	4.4	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias				R. A. T. Pinha, Com'd.
D. Fernando, N. 39° 39′, W. 16° 17′	2	SW	9	D. clouds... A. M. de Sande, Com'd. A. D. Pedroso, Com'd.
India				
Mindello, S. 15° 01′, E. 40° 42′	3	S	8	Blue sky... J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	1		10	D. clouds... A. J. de Mattos, Com'd't J. T. d'Oliveria, Com'd't.
Rio Douro				
Sado, N. 16° 41′, 5″ W. 23° 03′	2	ENE	3	ENE D. clouds... L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	3	NW	3	NW D. clouds... F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo				

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.57	751.1	29.97	761.3	76.5	24.7	45	ESE	13	6	.....	.....	4ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.67	753.6	30.07	763.8	75.9	24.4	44	SE	4	2	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.92	760.0	30.15	765.9	74.5	23.6	46	NE	7	3	.....	.....	2k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.12	765.1	30.14	765.5	67.8	19.9	78	NW	4	2	.....	.....	2s	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio																			Ch. Forsten.
Kieff	29.24	742.6	29.84	757.9	74.7	23.7	44	NNE	4	2	.....	.....	10ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.63	752 7	29.71	754.5	67.3	19.6	82	NE	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.61	752.0	29.63	752.5	71.4	21.9	95	S	7	3	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.52	749.7	30.04	763.0	74.7	23.7	49	WSW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.55	750.5	29.75	755.6	64.6	18.1	93	E	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.95	760.8	29.97	761.3	64.2	17.9	49	NW	22	10	.....	.....	1c	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.28	718.4	29.60	751.9	86.2	30.1	36	NW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.79	756.6	29.71	754.5	81.3	27.4	48	ENE	31	14	.....	.....	0ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.73	755.1	29.98	761.6	77.4	25.2	43	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	29.00	736.5	29.90	759.5	73.0	22.8	41	NW	2	1	.....	.....	3cks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.53	750.1	29.75	755.7	88.0	31.1	36	NNE	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly																			Bobrof.
Tashkend	28.17	715 5	29.74	755.5	89.6	32.0	42	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	28.91	734.3	29.41	747.0	63.5	17.5	94	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.02	737.0	29.29	744.0	64.6	18.1	76	NW	11	5	.....	.....	6	.....	.....	Blank	Blank	.....	Marks.
Irkutsk																			Usolzef.
Peking, (China)	29.35	745.6	29.50	749.2	81.3	27.4	90	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.61	752.1	29.71	754.7	78.8	26	56	SW	1.5	0.67	.....	.....	5c;ck	.....	.....	0.012	0.31	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.72	754.8	29.77	756.2	76.3	24.6	64	NW	2.4	1.09	.....	3	6	W	.....	0.016	0.4	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.90	683.3	.....	.....	68.9	20.5	60	SW	6.8	3.04	.....	.....	9	.....	.....	0.236	6.0	Almost cov.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.63	701.8	29.74	755.4	79.2	26.2	41	SW	14.9	6.67	.....	0	9	.....	.....	Inap.	Inap.	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.64	752.9	29.78	756.5	93.2	34.0	38	NNW	3.1	1.39	.....	3	6	ESE	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.90	734.0	29.76	755.9	73.2	22.9	60	SW	4.2	1.86	.....	.....	5	.....	.....	0.028	0.7	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.4	30.00	762 0	83.2	28.4	79	E	8.5	3.8	.....	2cs	2sk	.....	.....	0	0	Fair.....	Benito Vines, S. J. Federico Faura, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. Pujazon, R. N., Dir.
San Fernando, Naval Obs'y	29.89	759.2	29.99	761.6	75.0	23.9	68	WSW	15.5	6.9	.....	0	6	.....	W	0	0	.....	Leonardo de Tejeda, Ch'f Eng'r
San Juan de Porto Rico, W.I.	29.93	760.3	30.02	762.6	82.4	28.0	86	SE	7.4	3.33	.....	2s	6kn	SE	SE	0.079	2.00	Cloudy.....	

Note.—The originals give the weather in genereal terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 666.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.20	767.0	30.24	768.0	66.6	19.2	.....	N	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.25	768.4	30.30	769.7	62.6	17.0	48	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Hernosand	30.24	768.0	30.29	769.3	66.6	19.2	47	ESE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	30.02	762.4	30.19	766.9	75.2	24 0	39	E	.....	.....	6	.....	1	.....	.....	0	0	.....	
Wisby	30.07	763.7	30.13	765.2	65.5	18.6	70	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.11	764.7	30.18	766.6	75.2	24.0	54	NNE	11.2	5.0	.....	.....	4	.....	E	0	0	.....	Nils Ekholm.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.30	718.9	29.69	754.2	66.2	19.0	71	NE	.....	.....	1	.....	10	.....	.....	0.803	20.4	Covered.....	The Observatory.
Zurich	28.10	713.6	29.72	754.8	58.6	14.8	92	W	.....	.....	2	.....	9	.....	.....	0.106	2.7	Covered.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —9.0 mm.; Thermometer, —3.4 cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.88	758.9	72.1	22.3	61	NNW	8	3.5	.....	.....	10	.....	W	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.11	764.8	79.3	26.3	.....	W	.....	.....	1	.....	10	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.73	755.1	29.85	758.1	91.4	33.0	43	SW	.....	.....	2	.....	1k	.....	SW	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.63	752.6	29.70	754.4	62.9	17.2	93	NE	6	2.7	.....	.....	10n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.44	747.8	29.72	754.9	77	25.0	.....	Calm	0	0	.....	0	2s	.....	W	0.48	12.2	Clear.....	W. R. Bigg.
*Chatham, N B	29.63	752.6	29.69	754.1	64	17.8	92	NE	1	0.4	.....	.....	10n	.....	NE	0.46	11.7	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island.	29.61	752.1	29.65	753.1	64	17.8	86	W	2	0.9	.....	8ks	0	W	.....	0.400	10.16	Clearing.....	H. J. Cundall, C. E
Cornwall, Ontario	29.47	748.5	29.71	754.6	67.0	19.4	88	W	.....	.....	2	.....	10s	.....	.....	0.026	0.66	Overcast.....	James Smith, M. A
Dalhousie, N. B	29.54	750.3	29.70	754.4	60	15.6	100	E	.....	.....	3	.....	.....	.....	.....	0.05	1.3	Drizzling.....	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.98	761.5	50.3	10.2	93	Calm	.....	.....	.....	6cs	0	.....	.....	0	0	Fair.....	W. H. Bevis.
*Father Point, Quebec	29.67	753.6	29.69	754.1	52	11.1	95	E	20	8.9	.....	5k	Fog	S	E	0.17	4.3	Clearing.....	J. McWilliams.
Fredericton, N. B	29.64	752.8	29.70	754.4	66.0	18.9	84	N	1	0.4	.....	.....	10n	.....	.....	0.02	0.5	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.09	738.9	29.89	759.2	60	15.6	94	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.75	730.2	29.80	756.9	68	20.0	84	NW	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	29.52	749.8	29.65	753.1	63	17.2	96	NW	6	2.7	.....	.....	10n	.....	NW	0.179	4.55	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.45	748.0	29.80	756.9	70.7	21.5	64	W	.....	.....	3	0	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.99	761.7	30.02	762.5	60	15.6	74	N	.....	.....	1	.....	10	.....	.....	0	0	Overcast.....	E. Weedon.
*Kingston, Ontario	29.43	747.5	29.75	755.6	71	21.7	77	W	3	1.3	.....	5ck	0	W	.....	Inap.	Inap.	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	29.64	752.8	29.68	753.9	62.0	16 7	.....	SE	7	3.1	.....	0	Fog	.....	.....	0.96	24.4	Fog & mist..	C. H. Rigby.
*Montreal, Quebec	29.47	748.5	29.65	753.1	69	20.6	80	W	8	3.6	.....	0	5ks	.....	N	0.04	1.0	Fair.....	C. H. McLeod, C. E
*Parry Sound, Ontario	29.10	739.1	29.76	755.9	69	20.6	90	W	8	3.6	.....	0	0	.....	.....	0.64	16.3	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.02	737.1	29.74	755.4	70.9	21.6	76	W	.....	.....	2	2k	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.81	757.2	69	20.6	79	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	29.61	752.1	29.66	753.4	60.7	15.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.19	741.4	29.81	757.2	67	19.4	85	NW	2	0.9	.....	5k	0	W	.....	0.12	3.0	Fair.....	M. Payne.
*Quebec, Quebec	29.33	745.0	29.64	752.8	62	16.7	94	Calm	.....	.....	0	.....	10n	.....	Calm	0.49	12.4	Clearing.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.28	743.7	29.72	754.9	61	16.1	95	Calm	0	0	.....	.....	Fog	.....	.....	0.29	7.4	Foggy.....	W. H. McIntyre.
St. Andrews, N. B	29.64	752.8	29.69	754.1	62	16.7	86	Calm	0	0	.....	5k	5ks	NW	.....	0.41	10.4	Cloudy.....	Dr. Gove.
St. John, N. B	29.54	750.3	29.70	754.4	61	16.1	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.78	756.4	72	22.2	78	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	K. Stewart.
Stayner, Ontario	29.99	761.7	29.73	755.1	72	22.2	64	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.66	753.4	29.69	754.1	62	16.7	98	SE	6	2.7	.....	.....	10n	.....	.....	1.13	28.7	Cloudy	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.77	756.1	69	20.6	68	NW	9	4.0	.....	2cs	0	Calm	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	55.0	12.8	100	SE	.....	.....	.....	.....	10	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.53	750.0	29.74	755.4	71	21.7	80	Calm	0	0	.....	0	8ks	.....	W	1.37	34.8	Fair	
Alpena, Michigan	29.14	740.1	29.74	755.4	69	20.6	70	W	5	2.2	.....	c	0	.....	.....	Inap.	Inap.	Clear	
Atlantic City, New Jersey	29.80	756.9	29.82	757.4	76	24.4	72	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.73	755.1	29.90	759.4	78	25.6	100	S	1	0.4	.....	.....	10s	.....	S	Inap.	Inap.	Threatening	
Baltimore, Maryland	29.78	756.4	29.83	757.7	77	25.0	61	NW	3	1.3	.....	2ck	Sm'e	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.79	756.7	29.81	757.2	78	25.6	65	NW	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
Bismarck, Dakota	27.99	710.9	29.85	758.2	68	20.0	79	N	4	1.8	.....	1cs	0	W	.....	0.08	2.0	Clear	
BoiseCity, Idaho	27.11	688.6	29.99	761.7	61	16.1	49	SE	4	1.8	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.60	751.8	29.74	755.4	61.5	16.4	100	E	3	1.3	.....	.....	Fog	.....	Calm	0.21	5.3	Foggy	
Brackettville, Texas	28.76	730.5	29.74	755.4	80	26.7	82	E	5	2.2	.....	2c	0	Calm	.....	0	0	Clear	
Breckenridge, Minnesota	28.84	732.5	29.78	756.4	66	18.9	95	SE	4	1.8	.....	2ck	0	W	.....	0.02	0.5	Fair	
Brownsville, Texas	29.83	757.7	29.89	759.2	82	27.8	78	S	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Buffalo, New York	29.10	739.1	29.76	755.9	73	22.8	72	W	3	1.3	.....	0	1ks	.....	W	0.01	0.3	Clear	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	51	Calm	.....	.....	0	5ck	0	NW	.....	0	0	Fair	
Burlington, Vermont	29.44	747.8	29.69	754.1	70	21.1	79	S	4	1.8	.....	2k	0	NW	.....	0.53	13.5	Fair	
Cairo, Illinois	29.53	750.0	29.90	759.4	75	23.9	81	Calm	0	0	.....	2c	2ks	S	Calm	0.62	15.7	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	79	NE	.....	.....	1	.....	10s	.....	N	0	0	Cloudy	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	72	22.2	50	Calm	.....	.....	0	2ck	2s	NE	Calm	0	0	Fair	
Camp Verde, Arizona	26.74	679.2	30.22	767.6	78	25.6	57	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.41	696.2	29.98	761.5	47	8.3	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.90	759.4	29.90	759.4	78	25.6	78	S	3	1.3	.....	2cs	5s	NW	NW	0.78	19.8	Cloudy	
Cape Henry, Virginia	29.82	757.4	29.84	757.9	73	22.8	85	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	29.88	758.9	29.90	759.4	78	25.6	86	NE	5	2.2	.....	2k	0	NE	.....	1.57	39.9	Fair	
Cape May, New Jersey	29.82	757.4	29.85	758.2	76	24.4	81	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.14	740.1	29.78	756.4	82	27.8	83	Calm	0	0	.....	0	2ks	.....	W	0	0	Fair	
Charleston, South Carolina	29.87	758.7	29.94	760.5	83	28.3	71	SW	6	2.7	.....	8cs	0	SW	.....	0	0	Fair	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	57	13.9	31	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.12	739.6	29.78	756.4	72	22.2	76	W	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.22	742.2	29.84	757.9	75	23.9	68	W	4	1.8	.....	5c	0	W	.....	0	0	Fair	
Cleveland, Ohio	29.12	739.6	29.80	756.9	70	21.1	75	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.04	737.6	29.84	757.9	71	21.7	85	SE	2	0.9	.....	5cs	5s	Calm	S	0.04	1.0	Cloudy	
Concho, Texas	28.01	711.4	29.60	751.8	74	23.3	85	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.45	748.0	29.89	759.2	78	25.6	91	NE	4	1.8	.....	2cs	2s	Calm	Calm	0.03	0.8	Fair	
Davenport, Iowa	29.26	743.2	29.87	758.7	69	20.6	75	NW	1	0.4	.....	1c	0	W	.....	0	0	Clear	
Denison, Texas	29.15	740.4	29.91	759.7	75	23 9	86	SE	6	2.7	.....	2k	5s	SE	SE	0.01	0.3	Fair	
Denver, Colorado	24.93	633.2	30.15	765.8	63	17.2	38	S	10	4.5	.....	2ck	0	NE	.....	0	0	Clear	
Des Moines, Iowa	29.01	736.8	29.83	757.7	76	24.4	64	SW	.....	.....	1	5c	Haze	Calm	Calm	0	0	Fair	
Detroit, Michigan	29.18	741.2	29.82	757.4	68	20.0	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.36	694.9	29.54	750.3	70	21.1	80	SE	24	10.7	.....	0	2s	.....	SE	0	0	Fair	
Dubuque, Iowa	29.20	741.7	29.86	758.4	69	20.6	75	N	2	0.9	.....	8k	2s	NE	Calm	0	0	Cloudy	
Duluth, Minnesota	29.15	740.4	29.78	756.4	72	22.2	76	NW	1	0.4	.....	.....	10s	.....	N	0	0	Cloudy	
Eagle Pass, Texas	29.12	739.6	29.83	757.7	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.63	752.6	29.69	754.1	64	17.8	78	W	4	1.8	.....	2ck	8s	Calm	W	0.46	11.7	Clearing	
El Paso, Texas	.....	.....	.....	.....	84	28.9	53	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.09	738.9	29.77	756.1	73	22.8	81	SW	5	2.2	.....	0	Haze	.....	.....	0.45	11.4	Clear	
Escanaba, Michigan	29.16	740.7	29.78	756.4	68	20.0	70	NW	4	1.8	.....	5k	0	NW	.....	0	0	Fair	
Florence, Arizona	.....	.....	.....	.....	80	26.7	70	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	25.52	648.2	29.58	751.3	74	23.3	58	NE	6	2.7	.....	5cs	0	SE	.....	0	0	Fair	
Fort Davis, Texas	25.21	640.3	30.17	766.3	72	22.2	71	Calm	0	0	.....	2k	0	E	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.33	745.0	29.84	757.9	74	23.3	90	SE	2	0.9	.....	5ck	2s	SW	SE	0.04	1.0	Fair	
Fort Griffin, Texas	28.63	727.2	29.83	757.7	77	25.0	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.72	729.5	29.77	756.1	78	25.6	78	NW	2	0.9	.....	5c	2s	Calm	Calm	6	0	Fair	
Galveston, Texas	29.86	758.4	29.90	759.4	84	28.9	83	S	12	5.4	.....	.....	10ks	.....	SE	1.34	35.0	Cloudy	
Grand Haven, Michigan	29.20	741.7	29.81	757.2	75	23.9	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.10	739.1	29.84	757.9	74	23.3	76	S	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.89	759.2	29.91	759.7	81	27.2	91	SW	6	2.7	.....	.....	10ks	.....	SW	0.54	13.7	Threatening	
Jacksboro, Texas	28.79	731.3	29.87	758.7	75	23.9	81	SE	4	1.8	.....	0	0	.....	.....	0.08	2.0	Clear	
Jacksonville, Florida	29.95	760.7	29.97	761.2	85	29.4	72	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.24	742.7	29.81	757.2	78	25.6	69	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.97	761.2	30.00	762.0	84	28.9	75	E	7	3.1	.....	0	5ks	.....	E	0	0	Fair	
Kittyhawk, North Carolina	29.76	755.9	29.78	756.4	73	22.8	90	W	7	3.1	.....	.....	10ks	.....	W	0.57	14.5	Cloudy	
Knoxville, Tennessee	28.99	736.3	29.95	760.7	68	20.0	90	Calm	0	0	.....	.....	10s	.....	SW	0.22	5.6	Cloudy	
La Crosse, Wisconsin	29 14	740.1	29.84	757.9	70	21.1	75	S	4	1.8	.....	8c	0	NW	.....	0	0	Fair	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.42	747.3	29.75	755.6	83	28.3	79	SE	1	0 4	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.95	633.7	30.22	767.6	55	12.8	68	S	1	0.4	.....	0	0	.....	.....	0.64	16.3	Clear	
Leavenworth, Kansas	28.99	736.3	29.78	756.4	73	22 8	85	S	1	0.4	.....	2c	0	NW	.....	0.11	2.8	Clear	
Los Angeles, California	29.60	751.8	29.93	760.2	60	15.6	88	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.34	745.2	29.87	758.7	78	25.6	65	SW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.18	741.2	29.81	757.2	78	25.6	72	SW	2	0.9	.....	0	2ks	.....	Calm	0	0	Clear	
Marquette, Michigan	29.08	738.6	29.73	755.1	73	22.8	63	W	4	1.8	.....	5k	0	W	.....	0	0	Fair	
Mason, Texas	28.28	718.3	29.94	760.5	79	26.1	82	Calm	0	0	.....	.....	Haze	.....	Calm	0	0	Hazy	
Memphis, Tennessee	29.60	751.8	29.91	759.7	77	25.0	86	S	4	1.8	.....	.....	10s	.....	SW	0.23	5.8	Cloudy	
Milwaukee, Wisconsin	29.12	739.6	29.81	757.2	70	21.1	75	NW	3	1.3	.....	5c	0	NW	.....	0	0	Fair	
Mobile, Alabama	29.93	760.0	30.00	762.0	77	25.0	91	S	8	3.6	.....	.....	10a	.....	Calm	0.67	17.0	Light rain	
Montgomery, Alabama	29.71	754.6	29.96	761.0	79	26.1	82	Calm	0	0	.....	2cs	0	Calm	.....	0.41	10.4	Clear	
Morgantown, West Virginia	28.84	732.5	29.84	757.9	71	21.7	75	S	2	0.9	.....	10c	Haze	NW	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.66	601.0	30.02	762 5	49	9.4	100	NW	24	10.7	.....	.....	10n	.....	NW	0.88	22.4	Light rain	
Nashville, Tennessee	29.40	747.0	29.91	759.7	76	24.4	73	E	3	1.3	.....	2c	5s	Calm	SE	0.80	20.3	Fair	
New Haven, Connecticut	29 67	753.6	29.78	756.4	78	25.6	69	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
New London, Connecticut	29.72	754.9	29.78	755.9	76	24.4	73	SW	4	1.8	.....	0	1s	.....	SW	0.04	1.0	Clear	
New Orleans, Louisiana	29.91	759.7	29.97	761.2	84	28.9	75	S	2	0.9	.....	5c	0	Calm	.....	0.01	0.3	Fair	
Newport, Rhode Island	29.69	754.1	29.74	755.4	71	21.1	75	SW	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear	
New York, New York	29.64	752.8	29.81	757.2	72	22.2	75	SW	3	1.3	.....	0	Haze	.....	Calm	1.39	35.3	Clear	
Norfolk, Virginia	29.77	756.1	29.83	757.7	75	23.9	77	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.09	688.1	29.55	750.6	67	19.4	79	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.99	761.7	30.03	762.7	53	11.7	93	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Omaha, Nebraska	29.78	731.0	29.79	756.7	74	23.3	86	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.47	748.5	29.77	756.1	70	21.1	90	NW	6	2.7	.....	1c	0	Calm	.....	0.08	2.0	Clear	
Pembina, Dakota	29.07	738.4	29.85	758.2	55	18.3	89	N	2	0.9	.....	0	2ks	.....	Calm	0.02	0.5	Clear	
Philadelphia, Pennsylvania	28.78	756.4	29.82	757.4	77	25.0	57	NW	9	4.0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Phœnix, Arizona	28.76	730.5	.....	.....	88	31.1	69	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Cloudy	
Pike's Peak, Colorado	18.17	461.5	30.38	771.6	48	8.9	56	SE	6	2.7	.....	5k	0	SE	.....	0	0	Fair	
Pioche, Nevada	24.13	612.9	29.90	759.4	67	19.4	55	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.03	737.3	29.80	756.9	69	20.6	85	Calm	0	0	.....	5c	0	NW	.....	0	0	Fair	
Port Huron, Michigan	29.17	740.9	29.80	756.9	71	21.7	71	NW	2	0.9	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Maine	29.65	753.1	29.70	754.4	62	16.7	88	Calm	0	0	.....	2k	8s	Calm	Calm	0.02	0.5	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Portland, Oregon	29.99	761.7	30.09	764.3	55	12.8	87	NW	1	0.4	.....	2ck	0	SW	.....	0	0	Clear	
Prescott, Arizona	24.86	631.4	30.22	767.6	62	16.7	51	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	83	28.3	83	E	4	1.8	.....	2k	0	SW	.....	0.04	1.0	Clear	
Red Bluff, California	29.53	750.0	29.88	758.9	70	21.1	57	S	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.18	741.2	29.76	755.9	71	21.7	75	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.52	749.8	30.09	764.3	50	10.0	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.81	757.2	29.89	759.2	60	15.6	74	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.32	744.7	29.86	758.4	75	23.9	86	S	2	0.9	.....	.....	10s	.....	Calm	0 29	7.4	Cloudy	
St. Marks, Florida	29.96	761.0	29.98	761.5	77	25.0	91	Calm	0	0	.....	1k	0	Calm	.....	0	0	Clear	
St. Paul, Minnesota	29.01	736.8	29.79	756.7	72	22.2	80	SW	4	1.8	.....	5k	0	W	.....	0	0	Fair	
Salt Lake City, Utah	25.62	650.7	29.96	761.0	74	23.3	32	N	4	1.8	.....	2c	0	W	.....	0	0	Clear	
San Antonio, Texas	29.19	741.4	29.74	755.4	80	26.7	91	NE	1	0.4	.....	5ck	0	NE	.....	0	0	Fair	
San Diego, California	29.89	759.2	29.96	761.0	65	18.3	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.22	742.2	29.86	758.4	69	20.6	80	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.77	756.1	29.80	756.9	79	26.1	70	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.90	759.4	29.96	761.0	54	12.2	90	S	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	28.43	595.1	29.97	761.2	65	18.3	49	E	2	0.9	.....	5k	0	Calm	.....	0	0	Fair	
Savannah, Georgia	29.85	758.2	29.94	760.5	84	28.9	75	W	8	3.6	.....	5k	0	W	.....	0	0	Fair	
Shreveport, Louisiana	29.69	754.1	29.91	759.7	80	26.7	91	Calm	0	0	.....	10cs	0	Calm	.....	0	0	Cloudy	
Silver City, New Mexico	24.31	617.5	.....	.....	67	19.4	68	S	3	1.8	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.86	758.4	29.90	759.4	83	28 3	71	W	7	3.1	.....	5ck	0	SW	.....	0	0	Fair	
Springfield, Massachusetts	29.57	751.1	29 69	754.1	75	23.9	68	S	3	1.3	.....	2c	0	S	.....	0.01	0.3	Fair	
Stockton, Texas	26.90	683.2	29.90	759.4	72	22.2	33	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.68	753.9	29.73	755.1	63	17.2	94	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Toledo, Ohio,	29.18	741.2	29.82	757.4	73	22.8	63	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.28	692.9	29.83	757.7	83	28.3	49	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Clear	
Tybee Island, Georgia	29.92	760.0	29.95	760.7	82	27.8	71	SW	7	3.1	.....	5cs	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.62	752.3	.....	.....	63	17.2	62	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Fair	
Vicksburg, Mississippi	29.71	754.6	29.96	761.0	78	25.6	91	S	3	1.3	.....	2c	0	Calm	.....	0.13	3.3	Fair	
Virginia City, Montana	24.38	619.2	29.86	758.4	66	18.9	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.54	750.3	29.90	759.4	68	20.0	60	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.75	755.6	29.86	758.4	76	24.4	69	NW	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	68	E	.....	.....	1	5c	0	S	.....	0	0	Fair	
Wilmington, N. Carolina	29.80	756.9	29.88	758.9	81	27.2	82	E	6	2.7	.....	10ck;k	0	W	.....	0	0	Cloudy	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	62	16.7	22	S	2	0.9	.....	10k	0	S	.....	0	0	Cloudy	
Wood's Holl, Mass	29.69	754.1	29.74	755.4	73	22.8	81	W	3	1.3	.....	Haze	0	Calm	.....	Inap.	Inap.	Clear	
Yankton, Dakota	28.60	726.4	29.84	757.9	68	20.0	87	S	4	1.8	.....	2c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.65	753.1	29.81	757.2	82	27.8	55	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.80	756.9	29.85	758.2	53.0	11.7	83	NE	12	5.4	.....	2c	0	NE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba. W. I	29.96	761.0	29.98	761.5	84	28.9	79	E	2.4	1.1	.....	8c	4ks	NW	NE	0	0	Cloudy	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	84	28.9	75	E	6	2.7	.....	2c	4s	E	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I	30.11	764.8	30.12	765.0	81	27.2	91	Calm	0	0	.....	8c	2n	NE	Calm	0	0	.....	James Gall.
Navassa, W. I	29.92	760.0	30.00	762.0	82	27.8	.....	E	12.9	5.8	.....	.....	.....	.....	.....	0.25	6.3	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.02	762.5	30.02	762.5	83	28.3	83	E	.....	.....	2	5ck	4s	Calm	.....	0.140	3.56	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A	25.24	641.1	.....	.....	67.5	19.7	75	Calm	0	0	.....	2cs	0	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,586 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,645 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.12	765.0	81	27.2	81	27.2	78	SSE	4	1.8	.....	.....	1	.....	SW	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.82‡	757.4‡	.....	.....	45	7.2	89	SW	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Naval Hospital, Yokohama, Japan.....	29.70*	754.4*	78	25.6	77.9	25.5	86	Calm	.....	.....	0	.....	8ks	.....	NE	1.62	41.1	.....	.....	Cloudy	
Adams. Pago-Pago.....	30.00	762.0	80	26.7	79	26.1	95	ESE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Rainy.....	
Alliance, Havre, France.....	29.64‡	752.8‡	.....	.....	65	18.3	68	SE	.....	.....	0-1	.....	9	.....	SE	.....	.....	.....	.....	Threatening	
Ashuelot, Nagasaki, Japan.....	29.93	760.2	84	28.9	82	27.8	88	SW	.....	.....	3	.....	5	.....	SW	.....	.....	.....	.....	Squally.....	
Canonicus, New Orleans, La.....	30.04	763.0	67	13.9	84	28.9	83	S	.....	.....	2	.....	4	.....	.....	.....	.....	.....	.....	Fair...	
Colorado, New York, N. Y.....	29.71‡?	754.6‡?	.....	.....	74	23.3	72	WSW	6	2.7	.....	.....	5	.....	WSW	0.79	20.1	... .	.....	Foggy	
Constitution, Havre, France.....	29.61‡	752.1‡	.....	.....	62	16.7	83	ESE	.....	.....	3	.....	6	.....	Calm	.....	.....	.....	.....	Pleasant... ...	
Despatch, Volo, Turkey	29.92‡	760.0‡	.....	.....	70	26.1	58	SSE	.....	.....	2	.....	2	.....	NE	.....	.....	.....	.....	Clear..... ...	
Franklin, Norfolk, Va.....	29.97	761.2	77	25.0	74	23.3	95	Calm	0	0	.....	.....	10	.....	NE	0	0	.....	.....	Cloudy.	
Gettysburg Villefranche, France....	29.64‡	752.8‡	.....	.....	78	25.6	86	SSW	.....	.....	4	.....	2	.....	SW	Blank	Blank	Light	S	Cloudy	
Hartford, Rio de Janeiro, Brazil ...	30.39	771.9	.....	.....	71	21.7	66	N	6.0	2.7	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	29.66	753.4	76	24.4	78	25.6	65	SSW	.....	.....	5	.....	2	.....	.....	Heavy	Heavy	Long	S	Fair.....	
Michigan, Lake Huron.....	29.48	748.8	77	25.0	74	23.3	63	WNW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy, Yokohama, Japan	29.66‡	753.4‡	.....	.....	79	26.1	82	SW	.....	.....	0-1	.....	10	.....	S	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.....	30.12†	765.0†	.....	.....	80	26.7	78	W	11	4.9	.....	.....	5	.....	W	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru.....	30.10†	764.5†	.....	.....	61	16.1	82	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China.....	29.60	751.8	85	29.4	83	28.3	53	NNE	.....	.....	1	.....	5	.....	N;E	.....	.....	.....	.....	.....	
Pensacola, Mare Island, California	29.98	761.5	63	17.2	56	13.3	93	SSW	13	5.8	.....	.....	2	.....	SSW	.....	.....	.....	.....	Clear.....	
Plymouth, New York, N. Y.....	29.80‡	756.9‡	.....	.....	74	23.3	76	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ranger, Hong-Kong, China.....	29.95	760.7	81.5	27.5	81	27.2	96	ENE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Rio Bravo, Brownsville, Texas.....	29.89	759.2	82	27.8	81	27.2	96	SSE	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	29.80‡	756.9‡	.. ..	.....	79	26.1	58	NW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa.....	29.80	756.9	75	23.9	75	23.9	95	NW	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, Havre, France.....	29.70	754.4	64	17.8	64	17.6	68	SE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.....	29.72‡	754.9‡	.....	.....	66	18.9	89	Calm	.....	.....	0	.....	Fog	.....	.....	.....	.....	.....	.....	Foggy	
Trenton, N. 48° 18', W. 5° 16'.....	29.72‡	754.9‡	.....	.....	62	16.7	89	NNE	.....	.....	3-4	.....	6	.....	N;E	0.2	5.	.....	.....	Fair	
Tuscarora, N. 16° 20', W. 98° 36'.....	29.72	754.9	79	26.1	80	26.7	82	S;E	.....	.....	0-1	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Vandalia, Messina, Sicily.....	29.90‡	759.4‡	.....	.....	76	24.4	73	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	29.69‡	754.1‡	.....	.....	64	17.8	94	SE	3	1.3	.....	.....	10	.....	Calm	0.17	4.3	....	.....	Foggy	
Wyoming, N. 42° 48', W. 62° 36'.....	29.75†	755.6†	.....	.. ....	63	17.2	100	N	.....	.....	4	.....	10	.....	N	.....	.....	Mod'ate	E	Showery.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 38° 34′, E. 149° 33′		30.04*	763.0*	68	20.0	100	SE			4		9		E	10hours	Mod'ate	E	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 35° 17′, E. 166° 57′		30.08†	762.7†	76	24.4	100	ESE	20	8.9			0			Light	Small	ESE	Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota																			Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 31° 17′ W. 138° 54′		30.48‡	774.2‡	70	21.1	95	E			3		10		E	0	Mod'ate	NNW	Fine	Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 50° 6′, W. 32° 54′		29.90*	759.4*	57	13.9	??	SW			3				N	4 hours	Slight	N	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, N. 38° 30′, W. 130° 43′		30.00*	762.0*	65	18.3	89	WNW			4		Fog		W		Smooth	NW	Misty	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 48° 13′, W. 27° 36′		29.83	757.7	61.5	16.4	86	NNW			6		10		N	1 hour	5	NNE	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 40° 22′, W. 65° 40′		29.99*	761.7*	82	27.8	88	Var.			1		0			Light	Light	NW	Clear	Captain Sargent.
S. S. Ohio, N. 51° 35′, W. 23° 35′		29.87	758.7	69	20.6	90	E			3		10		Calm	0	Small	ESE	Overcast	Captain Morrison. Captain Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. Fines Jorgensen
Schooner Florence, Godhavn, Greenland		30.43*	772.9*	46.5	8.1	57	E			3	1c	0	W		0			Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 4, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU, mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:48 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			30.00	761.9	81.9	27.7	59	NW			1		0			0	0	Clear	Dr. Olive.
Nemours			29.93	760.1	82.4	28.0	67	NNE			3		0			0	0	Clear	Kesxuche.
Algiers			29.97	761.1	77.9	25.5	84	NE			3		2			0.020	0.5	Fair	Tourillere.
La Calle			29.98	761.6															Foufrede.
Tunis																			Jacques.
Sfax			30.01	762.2	86.0	30.0		NE			6		6			0	0	Cloudy	Gau.
Saida			30.06	763.4	92.7	33.7	21	N			1		0			0	0	Clear	Herbin.
Tebessa			29.97	761.3	90.7	32.6	30	NW			1		1			0	0	Very fair	Watrin.
Geriville			30.03	762.8	93.9	34.4	62	Calm			0		0			0	0	Clear	Brugniaux.
Laghouat			30.01	762.3	86.4	30.2	23	E			1		0			0	0	Clear	Bertrand.
Biskra			29.97	761.1	102.2	39.0	27	NW			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 800? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.30	744.2	29.84	757.8	65.7	18.7	89	NW			1		10			0.583	14.8	Raining	Prof. Ivan Stossi.
Cracow	29.11	739.5	29.84	757.8	77.0	25.0	55	E			2		4			0	0		Prof. Dr. Karlinski.
Eperies	28.97	735.9	29.80	756.9	79.5	26.4	57	Calm			0		5cs;s		S	0	0		Julius Mikolik.
Gratz	28.70	729.0	29.93	760.1	64.2	17.9	90	E			2		10			0.795	20.20		Andreas Rospini.
Hermannstadt	28.40	721.4	29.74	755.3	77.9	25.5	54	ESE			1		4			0	0		Prof. Reissenberg
Kremtmünster	28.54	725.0	29.85	758.1	65.1	18.4	77	Calm			0		10			0.177	4.5		Prof. C. Wagner
Lemberg	28.89	733.8	29.84	757.8	73.0	22.8	74	SE			2		6			0	0		Dr. T. Stanecki.
Pola	29.73	755.2	29.84	758.0	74.1	23.4	78	W			3		5ks			0.673	17.1		I.R.Hydrographic Office
Szathmar	29.39	746.4	29.83	757.6	79.9	26.6	42	E			3		6			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.76	755.9	29.86	758.5	75.6	24.2	74	W			1		1			Inap.	Inap.	Raining	P. Busin.
Vienna	29.19	741.5	29.89	759.2	66.7	19.3	78	W			1		10			0.197	5.0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.43	722.1	29.68	753.9	70.3	21.3	46	SW			1		5			0	0		Prof. M. Passau.
Brussels	29.63	752.6	29.82	757.5	72.1	22.3	52	SE			2	1	7	S	S	0.004	0.10		Royal Observatory
Furnes	29.81	757.1	29.83	757.7	68 0	20.0	75	SE			1		6			0	0		M. E. de Cae.
Maeseyck	29.76	756.0	29.89	759.2	74.7	23.7	62	S			0		6			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	30.00	762.0	30.10	764.5	61.4	16.3	.....	NE	19	8.5	.....	.....	3	.....	.....	0.020	0.51	Blue sky.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	29.88	758.9	68.1	20.1	.....	ENE	16	7.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.76	755.9	65.8	18.8	.....	ENE	11	4.9	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Birr Castle, (Parsonstown)	29.65	753.1	29.84	757.9	66.1	18.9	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.78	19.8	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	80.5	26.9	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.74	755.4	75.0	23.9	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	Threatening	H. Todd. [H.C.
Cardington	.....	.....	29.75	755.6	71.0	21.7	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E	29.63	752.6	29.76	755.9	76.2	24.6	.....	S	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky.....	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.30	718.8	29.72	754.9	64.0	17.8	.....	W	.....	.....	2	.....	5	.....	.....	.....	.....	Fine.....	Alexander Watt. [Col. Martin, R. E.
Donaghadee	29.85	758.2	29.88	758.9	63	17.2	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast....	J. Mac Gowan.
Dover	29.77	756.1	29.79	756.7	67	19.4	.....	WSW	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.73	755.1	68.7	20.4	.....	NE	5.0	2.2	.....	.....	3	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.56	750.8	29.79	756.7	65.9	18.8	.....	SSE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.86	707.6	30.13	765.3	57.0	13.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.82	757.4	30.05	763.3	79.0	26.1	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	
Galway, Queen's College	.....	.....	29.78	756.4	70	21.1	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.91	759.7	29.96	761.0	81.1	27 3	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.85	758.2	30.06	763.5	71.1	21.7	.....	ENE	.....	.....	8	.....	8	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	29.79	756.7	29.80	756.9	65	18.3	.....	SE	.....	.....	4	.....	2	.....	.....	Blank	Blank	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.58	751.3	29.75	755.6	69.6	20.9	.....	S	.....	.....	1	.....	9	.....	.....	Blank	Blank	Nearly overcast	The Staff, for G. B. Airy.
Guernsey	29.58	751.3	29.79	756.7	66	18.9	.....	SSE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.81	757.2	69	20.6	.....	S	.....	.....	2	.....	2c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.73	755.1	29.78	756.4	63	17.2	.....	NNE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	John Tilston.
Jersey	29.58	751.3	29.85	758.2	64.9	18.3	.....	W	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	J. Fisher.
Kew, Observatory	.....	.....	29.74	755.4	69.1	20.6	.....	S	8	3.6	.....	.....	7	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.80	756.9	29.83	757.7	63	17.2	.....	NE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast....	George Mitchell.
Leicester, Museum	.....	.....	29.72	754.9	66.8	19.3	.....	E	.....	.....	1	.....	9	.....	.....	Blank	Blank	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.78	756.4	29.85	758.2	80	26.7	.....	N	.....	.....	1	.....	4ck	.....	.....	.....	.....	D. clouds....	H. J. Becket, A. H. C.
Nairn	30.03	762.7	30.12	765.0	66	18.9	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.99	761.7	80.5	26.9	.....	SE	.....	.....	0	.....	8	.....	.....	Blank	Blank	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.57	751.1	29.75	755.6	69.7	20.9	.....	ESE	.....	.....	3	.....	8ks;k;d	.....	E; ENE	0.421	10.70	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.21	741.9	29.71	754.6	66.8	19.3	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.74	755.4	66	18.9	.....	W	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast....	H.E. Bellamy.
Plymouth	29.71	754.6	29.78	756.4	67.5	19.7	.....	S	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	29.76	755.9	29.80	756.9	68	20.0	.....	E	.....	.....	3	.....	10	.....	.....	.....	.....	Showery.....	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.20	767.1	69.2	20.7	.....	NE	17	7.6	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.83	757.7	81.2	29.0	.....	SW	.....	.....	1	.....	4	.....	.....	Blank	Blank	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.52	749.8	29.80	756.9	63.1	17.3	.....	NE	.....	.....	2	.....	9	.....	.....	0.27	6.9	Overcast.....	W. F. Cooper.
Silloth Rectory	29.83	757.7	29.86	758.4	68.3	20.2	77	E	.....	.....	6	.....	4	.....	.....	0.070	1.78	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.40	746.7	29.81	757.2	64.8	18.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	30.07	763.8	30.10	764.5	63	17.2	.....	ENE	.....	.....	5	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield-Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.18	766.6	66	18.9	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	John Trotter.
Truro, Royal Institution	.....	.....	29.82	757.4	74	23.3	.....	NW	.....	.....	0	.....	7	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.83	757.7	65.6	18.7	.....	NNE	9	4.0	.....	.....	10	.....	.....	Blank	Blank	Gloomy	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.74	755.4	51.0	10.6	80	S	.....	.....	1	.....	0	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.8	69.6	20.9	73	SE	16.0	7.2	.....	3	6	.....	SE	0.01	0.3	Squally.....	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	48.0	8.9	86	WSW	9	4.0	.....	.....	10	.....	S	0.17	4.3	.....	R. L. J. Ellery.
Monach Li't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Uns., (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudinss for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria. N. 43° 15′ W. 47° 50′	10*	SSE; E	Foggy	Capt. W. Watson.
S. S. Batavia				Capt. J. E. Mouland.
Ship Camperdown				Capt. A. T. Miller.
Brig Catherine, N. 61° 12′, W. 48° 10′			D. clouds....	Capt. Alex. Wilson.
Barque Celeste				
Barque Commewyne				Capt. A. Buchan.
S. S. Don				A. S. Thomson.
S. S. Gordon Castle				Capt. W. Waring.
S. S. Hibernia				Capt. W. R. Cato
Barque Margaret Smith				Capt. D. W. A. Quaile
Barque Maroon				Capt. A. T. Brown.
Ship Mikado				Capt. C. C. Prehn.
S. S. Naid				Capt. J. Smith.
S. S. Peruvian, N. 56° 30′, W. 23° 50′	2	NNE	Misty.....	Capt. W. H. Smith, [R. N.
Royal Alice				Capt. E. M. Hughes.
S. S. Seine				Capt. H. Manning.
Barque Sorata				
Schooner Traveller, N. 43° 15′, W. 61° 30′	3	ESE; SSW	Misty.....	Capt. Alex. Simpson.
Barque Virginia				Capt. W. Spratly.
S. S. Yorkshire				Capt. H. Longley.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.23	666.2			70.2	21.2	91	NE			1	1c	5s		E	0.6	15		Mr. Ansart. Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.02	762.4	30.07	763.6	71.2	21.8	62	ESE			4		0						
Fanöe	29.95	760.8	29.97	761.3	76.1	24.5	65	E			6		3						
Godthaab, (Greenland)	30.11	764.8	30.15	765.9	43.5	6.4	94	NE			2		10					Foggy	
Stykkisholm, (Iceland)	30.26	768.5	30.30	769.6	58.6	14.8	76	S			2		8						
Thorshavn, (Faröe)	30.27	768.9	30.31	769.8	54.5	12.5	93	NE			2		10						
Vestervig	29.91	759.6	30.08	763.9	75.6	24.2	43	NE			4		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.5	29.86	758.5	65.1	18.4	96	SW			1		8			0.331	8.40	Very cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.84	757.8	29.91	759.8	79.5	26.4	60	SW			1		8		W	0	0	Very cloudy	M. Giraud, Director.
Bar-sur-Seine	29.35	745.5	29.88	759.0	73.9	23.3	45	S			1		8km		SW	0.028	0.7	Very cloudy	C. Sailliard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.56	750.8	29.84	757.8	70.7	21.5	54	SW			1		5		SW	0.20	5.	Cloudy	Frere Eugene Marie, Director.
Besançon	29.06	738.0	29.91	759.7	74.8	23.8	49	SSW			6		0			0	0	Clear.	Normal School.
Bourg-en-Bresse, N. School	29.04	737.5	29.96	761.0	78.3	25.7	53	N			1		2k		N	0	0	Slightly cl'dy	M. Marlot, Director.
Bourges, Normal School	29.30	744.1	29.82	757.5	73.0	22.8	64	SW			1		2kn		SW	0	0	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.54	750.2	29.78	756.4	67.6	19.8	70	SW			2		10		SW	0	0		The Staff.
Carcassonne, Normal School	29.50	749.2	29.89	759.1	81.7	27.6	65	N			2		2	W		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.24	742.8	29.78	756.4	73.4	23	71	W			2		3		NE	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.56	750.8	29.86	758.5	74.8	23.8	60	S			2		5	S	S	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.57	725.6	29.85	758.3	76.3	24.6	36	W			2				SW	0.020	0.5		Alluard, Director.
Commercy, Normal School	29.06	738.1	29.91	759.7	69.3	20.7	62	WSW			3		5kn		WSW	0	0	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.89	733.9	30.04	762.9	81.3	27.4	35	NW			2		2		NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.66	753.4	29.87	758.6	73.0	22.8	55	W			1		8		SW	0	0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.56	750.9	29.86	758.5	67.8	19.9	58	SW			3		2		SW	0.089	2.25	Slightly cl'dy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.02	737.2	29.90	759.4	77.2	25.1	45	W			1		2		ENE	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					73.9	23.3	67	SSW			3		5		SSW	0.016	0.4	Cloudy	M. Galzin, Director.
Mirecourt, Normal School	28.88	733.5	29.88	759.0	71.6	22	50	SSW			1		2k		NNE	0	0	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	29.71	754.5	29.92	759.9	86.0	30	52	SW			1		2		N	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	28.91	734.2	29.93	760.1	77.0	25	54	S			1		k	S	S	0	0		M. Cantier.
Puy de Dome (Summit)	25.15	638.8			52.5	11.4	71	W			2					0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.87	758.7	29.90	759.5	77.0	25.0	40	SW			3		0			0	0	Clear.	M. Giguel, Director.
Rouen, Normal School	29.74	755.5	29.83	757.6	69.1	20.6	58	W			1		8		SW	0.039	1.0	Very cloudy	F. Lucard, Director.
Saint Malo (Port)			29.82	757.5	67.6	19.8	69	NNE			2		1		NE	0	0	Clear	M. H. Hercouet.
Tarbes, Normal School	29.01	736.8	30.07	763.6	66.2	19	90	SW			1		10			0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.26	743.3	29.94	760.5	80.1	26.7	62	SE			1		2		S	0.16	4.	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.1	29.95	760.8	80.6	27													
Lyons			29.80	756.8	76.5	24.7	46									0.55	14.		L'Abbé Marchési.
Marseilles, Observatory			29.91	759.6	77.7	25.4	57	W					5			0.020	0.5		L. Jays.
Mont-Louis	24.89	632.3	30.21	767.3	65.5	18.6	40	WSW	26.1	11.67	1		3			0	0	Partly cl'dy	The Staff.
Nice			29.90	759.5	75.9	24.4	75	S			1		5		S	0.165	4.2		M. Cave.
Paris, Montsouris Obs'y	29.55	750.5	29.82	757.5	76.6	24.8	45	SSW			3		1			0	0		Dr. A. Niepce.
Perpignan			29.94	760.4	75.6	24.2	66	SE	11.2	5.00			7		W	0.079	2.0		Marié Davy, Director
Pic du Midi, (Summit,) H. P.													3		W	0	0		Dr. Fines.
Pic du Midi, (Plantade,) H. P.	22.56	573.1			48.6	9.2		SW											M. Baylac.
Saint Maur, (near Paris)	29.67	753.7	29.84	757.9	72.1	22.3	53	SSW			4		10			0	0	Stormy	Gen'l de Nansouty
Toulouse, Observatory	29.24	742.8	29.97	761.1	74.1	23.4	57	NE			2		3		SW	6	0		E. Renou.
Tours	29.66	753.4	29.86	758.4	70.5	21.4	62	WSW			1		4			0	0		The Staff.
Versailles, (near Paris)			29.85	758.1	70.5	21.4	49	W			1		10		WSW	0	0		C. Marquet.
Zi-Ka-Wei, (near Shanghai)	29.72	754.9	29.75	755.6	82.4	28.0	92	S	8.3	3.7	2		8			0.067	1.70	Cloudy	Dr. A. Bérigny.
																0.067	1.7	Fair	Marc Decheyrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.96	735.6	29.80	756.9	74.3	23.5	75	Calm			0		4			0	0		Prof. Dr. Hoh.
Berlin	29.82	757.4	29.98	761.6	77.0	25.0	46	SE			3		7			0	0		Prof. Arndt.
Breslau	29.39	746.5	29.92	759.9	81.1	27.3	48	E			3		9			0	0		Royal University Obs'y
Carlsruhe	29.47	748.5	29.88	758.9	74.1	23.4	65	NE			1		1			0	0		Albert Senz.
Cassel	29.25	743.0	29.85	758.3	77.0	25.0	59	ENE			1		8	E		0.101	2.57		Dr. H. Möhl.
Crefeld	29.67	753.7	29.84	757.8	77.0	25.0	48	SW			3		5k			0.04	1.		Director Lose.
Emden	29.78	756.4	29.82	757.4	72.0	22.2	82	E			3		2			0.087	2.2		Prof. Prestel.
Frankfort on the Main	29.57	751.0	29.91	759.8	76.1	24.5		SW			2		2			0.04	1.		Physical Society.
Friedrichshafen	28.51	724.1	29.90	759.5	67.3	19.6	78	SSW			2		1			0	0		M. Wilhelm.
Hamburg	29.87	758.6	29.93	760.3	68.5	20.3	86	Calm			0		10n			0.220	5.6	Rainy	Captain F. Hegemann.
Kiel	29.94	760.5	29.96	760.9	72.5	22.5	67	ENE			6		5			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.95	760.6	30.02	762.6	76.6	24.8	53	E			3		6			0	0		Prof. E. Luther.
Köslin			29.95	760.8	79.5	26.4		SE			2		2			0	0		H. Müller.
Leipsic, Observatory	29.47	748.5	29.87	758.7	76.1	24.5	57	ESE			1		7			0.039	1.0		Prof. Bruhns.
Memel, Naval School	30.01	762.2	30.06	763.4	78.1	25.6	40	NE			2		5k;s						Reinbrecht and Skalweit.
Neufahrwasser	30.03	762.8	30.05	763.2	71.6	22.0	72	NE			3		3			0	0		A. Lothes.
Posen	29.72	754.8	29.99	761.8	78.8	26.0	45	NE			6		4			0	0		Dr. Magener.
Strassburg (in Alsace)	29.37	746.0	29.89	759.3	76.6	24.8	61	S			3		7	SSW		0.157	3.98		Astronomical Observatory.
Stuttgart	28.97	735.9	29.87	758.7	73.4	23.0	45	E					3	W		0	0		Prof. Schoder.
Treves, (Trier)	29.24	742.6	29.75	755.7	75.0	23.9	53	SE			5		7			0.001	0.02	Dense fog	Prof. Flesch.
Weissenburg, (Bavaria)	28.44	722.3	29.89	759.3	70.7	21.5	56	W	3.4	1.5			5ck		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.98	761.5	30.02	762.5	73.6	23.1	68	NE			4		3			0	0		E. F. Schütz.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.8	29.85	758.3	87.6	30.9		SW			3.0							Clear	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	29.02	737.1	29.49	749.1	80.4	26.9	92	ENE					10		ESE	1.16	29.5	Overcast	
Deesa	29.51	749.6	29.75	750.5	80.4	26.9	89	WSW	20	8.9			10		SW	0.35	8.9	Raining	
Bombay	27.59	700.7	29.58	751.4	75.2	24.0	88	W					10		W	0.15	3.8	Overcast	
Poona	28.74	730.0	29.46	748.3	91.1	32.8	62	Calm	1.6	0.7			3			0	0	Blue sky	
Lahore	27.18	690.5	29.73	755.2	70.7	21.5	96	W	12	5.4			10		W	3.68	93.5	Raining	
Belgaum																			
Bangalore	28.56	725.5	29.43	747.4	93.4	34.1	57	E	2.3	1.0			8			0.06	1.5	Gloomy	
Roorkee	28.89	733.8	29.44	747.7	92.6	33.7	64	E					3		E	0	0		
Agra																			
Trichinopoly	28.43	722.1	29.45	748.1	82.8	28.2	80	SW	5.6	2.5			6		NNE	1.06	26.9	D. clouds	
Nagpur																			
Madras																			
Lucknow	29.12	739.5	29.42	747.2	90.2	32.3	72	ENE	5.7	2.6			9		E	0	0	D. clouds	
Allahabad	29.30	744.1	29.48	748.7	88.0	31.4	76	E	2.4	1.1			10	E	E	0.09	2.3	Overcast	
Patna	27.51	695.7	29.48	748.9	81.8	27.7	79	SE	11	4.9			9			0.08	2.0	Thunder-storm	
Hazaribagh	29.40	746.9	29.48	748.9	86.1	30.1	75	S	1.9	0.8			3			0.16	4.1	D. clouds	
Cuttack	29.51	749.5	29.53	750.0	84.3	29.1	84	SE	3.0	1.3			5		S	0.11	2.8	D. clouds	
Calcutta (Alipore)	29.19	741.4	29.57	751.2	79.8	26.6	98	WNW	3.8	1.7			10		S	1.34	34.0	Thunder	
Goalpara	29.53	750.0	29.62	752.3	84.4	29.1		SSE					9			0	0	D. clouds	
Chittagong	29.30	744.1	29.63	752.5	82.2	27.9	85	Calm	3.3	1.5			10	W	W	3.30	83.8	D. clouds	
Sibsagar																			
Rangoon	28.09	713.5	29.44	747.8	79.8	26.6	87	SSW	1.6	0.7			10			1.22	31.0	Overcast	
Jubbulpore																			

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.2	29.81	757.2	76.3	24.6	62	S	1.8	0.8	.....	.....	5	.....	.....	2.756	70.0	.....	Prof. Giovanni Clodig.
Padua	29.75	755.7	29.86	758.4	75.6	24.2	65	WSW	6.9	3.1	.....	.....	4	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.68	753.8	29.86	758.4	72.1	22.3	60	SW	3.8	1.7	.....	.....	3	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.60	726.6	29.87	758.7	74.5	23.6	58	SSW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.38	746.2	29.88	758.9	76.6	24.8	59	W	.....	.....	1	.....	2	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.00	736.7	29.88	758.9	73.8	23.2	65	S	0	0	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.02	711.7	29.85	758.3	70.2	21.2	68	NW	.....	.....	4	.....	1	.....	.....	0.483	11.0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.71	754.6	29.92	760.0	77.0	25.0	63	SSE	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.74	755.5	29.91	759.7	76.5	24.7	71	SW	.....	.....	2	.....	2	SE	.....	0.016	0.4	.....	Prof. G. M. Garibaldi.
Parma	29.57	751.0	29.88	758.9	75.4	24.1	68	W	.....	.....	2	.....	4	.....	.....	0.287	7.3	.....	Prof. P. Pigorini.
Florence	29.67	753.5	29.91	759.8	79.2	26.2	51	W	.....	.....	4	.....	7	W	.....	0.370	9.4	.....	Cav. F. Meucci.
Leghorn	29.82	757.5	29.91	759.6	78.4	25.8	59	WSW	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.83	757.7	29.88	758.9	75.6	24.2	65	W	.....	.....	2	.....	4	NE	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.39	721.1	29.89	759.3	73.8	23.2	61	SW	.....	.....	2	.....	10	.....	.....	2.063	52.4	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rome	29.76	755.9	29.93	760.2	83.1	28.4	52	W	9.8	4.4	.....	.....	1	.....	.....	0	0	.....	Avv. P. Ponticelli.
Naples, O. U.	29.74	755.5	29.94	760.4	82.2	27.9	41	WNW	.....	.....	4	.....	2	NW	.....	0.012	0.3	.....	Prof. P. G. S. Ferrari.
Lecce	29.67	753.6	29.92	759.9	82.6	28.1	55	NW	3.8	1.7	.....	.....	4	S	.....	0.205	5.2	.....	Prof. L. Palmieri.
Cagliari	29.74	755.4	29.93	760.1	84.0	28.9	64	SE	.....	.....	2	.....	2	W	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.68	738.5	29.92	759.9	83.5	28.6	66	SW	0	0	.....	.....	3	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.72	754.8	29.96	761.0	81.0	27.2	61	E	2.5	1.1	.....	.....	8	.....	.....	0.228	5.8	.....	Prof. F. D. Conti.
Syracuse	29.85	758.2	29.93	760.1	78.4	25.8	78	E	.....	.....	2	.....	7	SW	.....	0.067	1.7	.....	Prof. G. Cacciatore.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	79.3	26.3	55	SW	1.6	0.7	.....	.....	3	W	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.9 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.74	755.4	29.94	760.5	80.4	26.9	87	S	4.7	2.12	.....	.....	3ks	.....	SSW	0	0	Fair	.....
Tokei (Yeddo) Observatory	29.83	757.7	29.89	759.2	74.3	23.5	83	E	6.8	3.0	.....	.....	10s	.....	.....	0.440	11.18	Cloudy.	I. Arai, Director.
Tokei (Yeddo) University	29.78	756.4	29.88	758.7	73.5	22.8	90	ENE	5.5	2.5	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. E. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	62.2	17.0	98	Calm	0	0	.....	0	9n	.....	SE	0.48	12.2	Very cloudy	L. Castillo, A. E.
Guadalajara	25.07	636.8	30.03	762.6	57.6	14.2	89	NE	0.9	0.4	.....	0	10	.....	.....	2.14	54.2	Covered	Prof. L. Perez.
Guanajuato	23.70	602.0	29.84	757.9	63.1	17.3	84	Calm	0	0	.....	0	10	.....	.....	1.41	35.9	Covered	Prof. V. Fernandez
Leon	24.36	618.6	29.86	758.5	63.1	17.3	87	SSW	1.8	0.8	.....	0	10n	.....	SW	0.75	19.0	Covered	Prof. M. Leal.
Mexico	23.10	586.8	30.03	764.0	57.0	13.9	89	Calm	0	0	.....	0	9k	.....	.....	1.62	41.1	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalits)	.....	.....	.....	.....	64.4	18.0	90	SW	0.9	0.4	.....	0	9k	.....	E	0.12	3.1	Cloudy	M. V. de Leon, M. E
Puebla	23.94	593.9	29.95	760.6	57.0	13.9	92	E	3.1	1.4	.....	0	10n	.....	E	0.53	13.5	Covered	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.88	758.8	29.89	759.0	70.7	20.5	80	S	1.8	0.8	.....	.....	9k	.....	S	0	0	Very cloudy	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.14	765.6	59.0	15.0	67	ENE	0.9	0.4	.....	0	3	.....	E	0	0	Clear	G. Barroeta, M. D.
Vera-Cruz	29.89	759.2	29.92	759.9	80.6	27.0	84	NW	.....	.....	.....	2c	3sk	.....	.....	0.16	4.0	⅓ cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	78	NE	1.8	0.8	.....	0	6	.....	NE	0	0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.24	590.4	29.97	761.4	55.4	13.0	89	E	0.9	0.4	.....	3	2	.....	.....	0.64	16.2	½ cloudy	Prof. P. Spina, [M. M. D. D
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.37	720.6	29.99	761.8	78.4	25.8	70	N	1.8	0.8	.....	0	5	.....	E	0	0	⅛ cloudy.	R. Banda, C. E.
San Juan E. Michapam	29.64	752.8	29.78	756.5	79.7	26.5	.....	Calm	0	0	.....	0	2s	.....	.....	0	0	Clear	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,364.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.83	757.6	29.83	757.6	73.8	23.2	.....	S	.....	.....	1	.....	.....	.....	.....	0.138	3.5	.....	
Groningen	29.82	757.3	29.87	758.7	70.6	21.1	.....	E	.....	.....	2	.....	.....	.....	.....	0.693	17.6	.....	
Helder	29.83	757.6	29.83	757.6	65.8	18.8	.....	SW	.....	.....	1	.....	.....	.....	.....	0.031	0.8	.....	
Hellevoetsluis	29.80	757.0	29.80	757.0	75.2	24.0	70	SE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.82	757.3	29.86	758.5	74.7	23.7	60	S	.....	.....	3	.....	5	.....	.....	0.012	0.3	Cloudy	H. v d Brink.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.14	765.5	30.19	766.9	75.2	24.0	43	WNW	11.0	4.9	.....	.....	0	.....	.....	0	0	....	
Bröno	30.26	768.6	30.30	769.6	59.0	15.0	60	N	18	8	.....	.....	0	.....	.....	0	0	.....	
Christiania	30.04	763.1	30.18	766.6	82.8	28.2	26	E	11	5	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.35	771.0	30.40	772.1	59.0	10.0	72	SW	4	2	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.93	760.2	30.12	765.0	70.5	21.4	80	N	2.5	1.1	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.9	29.98	761.4	72.5	22.5	69	SW	11.2	5.0	.....	.....	9	SW	.....	0.209	5.3	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.00	762.1	30.09	764.3	75.2	24.0	75	S	3.8	1.7	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.61	752.2	29.97	761.2	70.0	21.1	80	SW	17.4	7.8	.....	.....	9	.....	.....	0.295	7.5	.....	The Staff.
Ponta Delgada, (Azores)	30.07	763.8	30.14	765.6	74.8	23.8	62	SW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 38° 59′, W. 17° 36′	.....	.....	29.62	752.4	72.9	22.7	.....	WNW	.....	.....	3	.....	9	.....	NW	6	NW	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	30.06	763.4	77.9	25.5	.....	S	.....	.....	4	.....	4	.....	SSE	3	.....	D. clouds	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.08	763.9	69.8	21.0	.....	WSW	.....	.....	1	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 41′, 5″ W. 23° 03′	.....	.....	30.01	762.2	80.1	26.7	.....	NE	.....	.....	2	.....	2	.....	NW	2	NE	D. Clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.02	762.6	72.3	22.4	.....	WNW	.....	.....	3	.....	8	.....	WNW	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.54	750.2	29.94	760.4	76.8	24.9	51	ENE	9	4	.....	.....	6k;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.61	752.0	30.00	762.1	77.9	25.5	46	Calm	0	0	.....	.....	8	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.87	758.7	30.10	764.6	75.0	23.9	41	N	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.08	764.1	30.10	764.5	68.9	20.5	43	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.17	740.8	29.76	756.0	77.7	25.4	48	N	4	2	.....	.....	6k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.69	754.0	29.76	755.8	74.1	23.4	65	NNE	9	4	.....	.....	5ks	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.62	752.4	29.64	752.9	71.4	21.9	95	S	7	3	.....	.....	7	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.39	746.4	29.91	759.7	74.7	23.7	50	NW	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.43	747.5	29.63	752.5	70.5	21.4	75	NNE	18	8	.....	.....	9n	.....	.....	.....	.....	Light clouds	Meteorological Obs
Archangel	30.06	763.4	30.08	763.9	52.3	11.3	55	NW	22	10	.....	.....	8ks	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.29	718.5	29.61	752.0	85.1	29.5	33	N	22	10	.....	.....	1c	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.71	754.6	29.62	752.4	73.6	23.1	78	ESE	2	1	.....	.....	10s;n	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.52	749.7	29.77	756.1	79.7	26.5	44	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.84	732.6	29.75	755.6	69.8	21.0	59	NW	4	2	.....	.....	9ks;n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.43	747.6	29.65	753.1	89.1	31.7	35	NNE	11	5	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.06	712.7	29.64	752.8	85.8	29.9	40	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.32	744.6	29.82	757.4	64.4	18.0	42	NW	0	0	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.41	746.9	29.69	754.0	65.7	18.7	55	NW	9	4	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.45	748.0	29.59	751.6	72.5	22.5	91	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,381.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 51° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	756.9	29.90	759.5	79.3	26.3	64	SE	1.8	0.8	.....	..	3c	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.80	756.9	29.85	758.3	87.3	30.7	52	NW	3.4	0.15	.....	3	4	W	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.02	686.2	.....	.....	71.6	22.0	66	SW	7.2	3.21	.....	.....	9	.....	.....	0	0	Almost cov.	Domingo Martin y Perez.
Madrid, Royal Observatory	27.77	705.3	29 92	760.0	72.0	22.2	77	SW	16.4	7.33	.....	0	10	.....	.....	0.138	3.5	Covered	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.8	95.0	35.0	39	S	4.7	2.11	.....	.....	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.95	735.3	29.81	757.1	74.8	23.8	64	SW	8.6	3.86	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir
Sub-Series.																			
Havana, Cuba, W. I.	29.91	759.7	29.98	761.4	79.7	26.5	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.1	75.7	24.3	70	SW	10.1	4.5	.....	0	6	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	83.1	28.4	85	SE	2.8	1.25	.....	1c	5k	SE	SE	0	0	Cloudy	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in genereal terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.30	769.7	30.34	770.7	52.9	11.6	.....	N	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	30.23	767.9	30.28	769.2	68.4	20.2	94	NE	.....	.....	4	.....	1	.....	.....	0	0	.....	
Hernosand	30.28	769.0	30.33	770.3	63.0	17.2	62	ENE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	30.02	762.6	30.29	767.1	70.9	21.6	45	NE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Wisby	30.05	763.3	30.11	764.8	64.0	17.8	86	NE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.14	765.6	30.22	767.5	71.8	22.1	30	ENE	12.8	5.7	.....	.....	0	.....	.....	0.001	0.02	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.52	724.4	29.89	759.1	75.2	24.0	53	S	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.33	719.6	29.91	759.7	72.3	22.4	66	NE	.....	.....	1	.....	3	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.5 mm.; Thermometer, +1.6 cent.; Relative Humidity, 0 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.88	759.0	79.0	26.1	68	NNE	8	3.5	.....	.....	6	.....	WNW	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762.3	81.0	27.2	.....	S	.....	.....	2	.....	10	.....	.....	0.16	4.	Thunder-storm	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.68	753.9	29.80	756.8	89.4	31.9	52	W	.....	.....	2	.....	2k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.50	749.3	29.79	756.7	72	22.2	.....	SW	5	2.2	.....	2c	2s	SW	S	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.81	757.2	29.87	758.7	61	16.1	94	Calm	0	0	.....	.....	10s	.....	NE	0	0	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.82	757.4	29.86	758.4	62	16.7	96	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	H. J. Cundall, C. E
Cornwall, Ontario	29.59	751.6	29.77	756.1	67.7	19.8	80	W	.....	.....	1	10cs	0	Calm	.....	0	0	Overcast	James Smith, M. A
Dalhousie, N. B	29.70	754.4	29.86	758.4	60.7	15.9	90	E	.....	.....	1	.....	.....	.....	.....	0.06	1.5	Gloomy	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.98	761.5	50.3	10.2	93	Calm	.....	.....	.....	6cs	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.83	757.7	29.85	758.2	52	11.1	93	Calm	0	0	.....	.....	Fog	.....	.....	0.32	8.1	Foggy	J. McWilliams.
Fredericton, N. B	29.83	757.7	29.90	759.4	65.0	18.3	89	Calm	0	0	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.06	738.1	29.85	758.2	65	18.3	92	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.77	730.7	29.82	757.4	71	21.7	85	W	.....	.....	1	1ck	0	SE	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.74	755.4	29.87	758.7	65	18.3	90	S	2	0.9	.....	.....	10n	.....	.....	Inap.	Inap.	Light rain	F. Allison, M. A.
Hamilton, Ontario	29.49	749.0	29.84	757.9	72.0	22.2	75	W	.....	.....	2	6ck	0	NW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.90	759.4	29.92	760.0	63	17.2	88	S	.....	.....	1	.....	10	.....	.....	0.50	12.7	Cloudy	E. Weedon.
*Kingston, Ontario	29.49	749.0	29.80	756.9	72	22.2	77	W	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.84	757.9	29.88	758.9	65.0	18 3	.....	S	6	2.7	.....	8k	0	S	.....	0.08	2.0	Cloudy	C. H. Rigby.
*Montreal, Quebec	29.60	751.8	29.79	756.7	70	21.1	82	Calm	0	0	.....	8cs	2s	NW	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.12	739.6	29.78	756.4	70	21.1	90	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.09	738.9	29.80	756.9	74.5	23.6	67	W	.....	.....	1	4k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.18	741.2	29.84	757.9	70	21.1	85	S	4	1.8	.....	10ck	0	SW	.....	0.38	9.7	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.83	757.7	73	22.8	85	W	6	2.7	.....	.....	8ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.53	750.0	29.84	757.9	59	15.0	94	E	.....	.....	1	.....	10n	.....	E	0.26	6.6	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.33	745.0	29.77	756.1	59	15.0	94	Calm	0	0	.....	.....	Fog	.....	.....	0.14	3.6	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.80	756.9	29.85	758.2	58	14.4	98	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.74	755.4	29.91	759.7	59	15.0	97	S	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.11	739.4	29.79	756.7	73	22.8	82	SW	4	1.8	.....	8cs	0	.....	.....	0	0	Cloudy	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. J. MacGregor, M. A.
*Sydney, C. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. C. Hill.
*Toronto, Ontario	29.84	757.9	29.87	758.7	69	20.6	87	W	3	1.3	.....	5k	2ks	W	W	0.05	1.3	Fair	Magnetic Observatory.
Windsor, N. S	29.47	748.5	29.84	757.9	68	20.0	84	SW	2	0.9	.....	2ck	8ks	W	W	0	0	Cloudy	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	58.0	14.4	100	SE	.....	.....	.....	.....	10n	.....	.....	0.34	8.6	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrumental error and temperature. Inches.	BAROMETER. Corrected for instrumental error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.62	752.3	29.84	757.9	71	21.7	80	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	
Alpena, Michigan	29.19	741.4	29.80	756.9	67	19.4	79	NW	2	0.9	.....	2c	0	W	.....	0.07	1.8	Fair	
Atlantic City, New Jersey	29.84	757.9	29.85	758.2	74	23.3	85	SW	3	1.3	.....	2k	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.72	754.9	29.89	759.2	81	27.2	74	SW	3	1.3	.....	8c	2ks	NW	SW	0	0	Cloudy	
Baltimore, Maryland	29.80	756.9	29.85	758.2	76	24 4	73	S	3	1.3	.....	5c;k	Haze	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.83	757.7	29.86	758.4	76	24.4	82	S	3	1.3	.....	2c	Haze	W	Calm	0	0	Fair	
Bismarck, Dakota	28.10	713.7	29.96	761.0	70	21.1	80	E	1	0.4	.....	0	2s	.....	Calm	0	0	Clear	
BoiseCity, Idaho	27.06	687.3	29.94	760.5	65	18.3	58	NE	1	0.4	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.72	754.9	29.87	758.7	74	23.3	68	NE	2	0.9	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Brackettville, Texas	28.74	730.0	29.72	754.9	80	26.7	82	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.89	733.8	29.85	758.2	59	15.0	94	N	4	1.8	.....	1k	0	N	.....	0	0	Clear	
Brownsville, Texas	29.83	757.7	29.90	759.4	81	27.2	82	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.16	740.7	29.82	757.4	70	21.1	75	S	5	2.2	.....	1c	2ks	SW	SW	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	90	32.2	57	Calm	.....	.....	0	2cs	5ks	Calm	SE	0	0	Fair	
Burlington, Vermont	29.58	751 3	29.82	757.4	69	20.6	79	S	3	1.3	.....	5c	0	W	.....	0	0	Fair	
Cairo, Illinois	29.52	749.8	29.88	758.9	81	27.2	83	Calm	0	0	.....	1c	0	W	... .	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	74	Calm	.....	.....	0	0	5s	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25 23	640.8	30.03	762.7	70	21.1	75	E	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.74	679.2	30.23	767.8	77	25.0	77	S	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Campo, California	27.36	694.9	29.93	760.2	52	11.1	86	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.88	758.9	29.89	759.2	76	24.4	91	Calm	0	0	.....	5c	5s	SW	SW	0.89	20.3	Cloudy	
Cape Henry, Virginia	29.87	758.7	29.90	759.4	75	23.9	81	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.90	759.4	29.91	759 7	79	26.1	82	SW	13	5.8	.....	.....	10ks	.....	SW	2.44	62.0	Cloudy	
Cape May, New Jersey	29.85	758.2	29.88	758.9	75	23.9	85	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.10	739.1	29.76	755.9	81	27.2	83	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
Charleston, South Carolina	29.87	758.7	29.94	760.5	79	26.1	82	W	8	3.6	.....	10cs	0	W	.....	0.18	4.6	Cloudy	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	64	17.8	58	SW	2	0.9	.....	0	8s	.....	SW	0	0	Cloudy	
Chicago, Illinois	29.13	739.9	29.78	756.4	64	24.4	64	NW	1	0.4	.....	10cs	Haze	Calm	.....	0.08	2.0	Cloudy	
Cincinnati Ohio	29.21	741.9	29.82	757.4	72	22.2	82	NW	2	0.9	.....	2cs	Fog	W	Calm	0.02	0.5	Clear	
Cleveland, Ohio	29.15	740.4	29.84	757.9	68	20.0	74	SE	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Columbus, Ohio	29.02	737.1	29.81	757.2	69	20.6	84	W	4	1.8	.....	2c	0	Calm	.....	0.10	2.5	Clear	
Concho, Texas	27.97	710.4	29.56	750.8	74	23.3	85	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.40	746.7	29.85	758.2	75	23.9	95	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.24	742.7	29.84	757.9	74	23.3	81	SE	6	2.7	.....	1c	1ks	SW	SW	Inap.	Inap.	Fair	
Denison, Texas	29.09	738.9	29.85	758.2	74	23.3	95	E	4	1.8	.....	5k	0	E	.....	0.03	0.8	Fair	
Denver, Colorado	24.88	631.9	30.10	764.5	71	21.7	29	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.99	736.3	29.81	757.2	79	26.1	70	SW	.....	.....	1	2c	0	W	.....	0.22	5.6	Clear	
Detroit, Michigan	29.16	740.7	29.80	756.9	71	21.7	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.39	695.7	29.56	750.8	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.11	739.4	29.76	755.9	72	22.2	80	S	4	1.8	.....	5cs	5ks	W	Calm	0.45	11.4	Cloudy	
Duluth, Minnesota	29.17	740.9	29.81	757.2	70	21.1	57	NW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	28.92	734.6	29.62	752.3	81	27.2	78	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.80	756.9	29.86	758.4	60	15.6	82	S	4	1.8	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
El Paso, Texas	.....	.....	.....	.....	81	27.2	65	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.14	740.1	29.81	757.2	73	22.8	72	SE	4	1.8	.....	2c	0	.....	.....	0	0	Fair	
Escanaba, Michigan	29.21	741.9	29.83	757.7	64	17.8	78	N	2	0.9	.....	5c	0	N	.....	0.30	7.6	Fair	
Florence, Arizona	.....	.....	.....	.....	81	27.2	70	Calm	.....	.....	0	5c	0	Calm	.....	0.05	1.3	Fair	
Fort Craig, New Mexico	25.59	650.0	30.45	773.4	70	21.1	72	SE	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	73	22.8	59	NW	2	0.9	.....	2k	0	NE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.34	745.2	29.84	757.9	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.62	726.9	29.82	757.4	77	25.0	91	SE	4	1.8	.....	2cs	2ks	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.71	729.2	29.76	755.9	75	23.9	85	N	4	1.8	.....	0	0	.....	.....	0.25	6.3	Clear	
Galveston, Texas	29.82	757.4	29.86	758.4	81	27.2	87	S	6	2.7	.....	.....	10ks	.....	S	0.25	6.3	Cloudy	
Grand Haven, Michigan	29.17	740.9	29.78	756.4	77	25.0	77	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
Indianapolis, Indiana	29.08	738.6	29.82	757.4	72	22.2	80	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Fair	
Indianola, Texas	29.87	758.7	29.89	759.2	83	28.3	87	NW	5	2.2	.....	1ck	0	Calm	.....	0.06	1.5	Clear	
Jacksboro, Texas	28.74	730.0	29.81	757.2	78	25.6	82	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.94	760.5	82	27.8	79	S	4	1.8	.....	5cs	0	Calm	.....	0.15	3.8	Fair	
Keokuk, Iowa	29.21	741.9	29.79	756.7	74	23.3	81	E	4	1.8	.....	0	8n	.....	NE	Inap.	Inap.	Light rain	
Key West, Florida	29.95	760.7	29.98	761.5	85	29 4	72	S	4	1.8	.....	1cs	1ks	Calm	Calm	0	0	Clear	
Kittyhawk, North Carolina	29.86	758.4	29.88	758.9	75	23.9	90	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Knoxville, Tennessee	28.94	735.1	29.89	759.2	74	23.3	81	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.08	738.6	29.78	756.4	70	21.1	90	NW	1	0.4	.....	.....	Fog	.....	Calm	0.10	2.5	Foggy	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	67	19.4	84	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Laredo, Texas	29.40	746.7	29.72	754.9	82	27.8	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.90	632.4	30.17	766.3	61	17.8	78	E	1	0.4	.....	10k	0	W	.....	0	0	Cloudy	
Leavenworth, Kansas	29.03	737.3	29.82	757.4	76	24 4	77	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Los Angeles, California	29.56	750.8	29.89	759.2	55	12.8	74	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.32	744.7	29.84	757.9	76	24.4	64	NE	2	0.9	.....	0	Sm'e	.....	Calm	0.34	8.6	Smoky	
Lynchburg, Virginia	29.20	741.7	29.84	757.9	76	24.4	64	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.12	739.6	29.78	756.4	69	20.6	61	Calm	0	0	.....	5c	0	SE	.....	0	0	Fair	
Mason, Texas	28.24	717.3	29.90	759.4	79	26.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.58	751.3	29.89	759.2	75	23.9	85	N	3	1.3	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Milwaukee, Wisconsin	29.10	739.1	29.79	756.7	71	21.7	75	NW	6	2.7	.....	2cs	0	NW	.....	0.02	0.5	Fair	
Mobile, Alabama	29.88	758.9	29.92	760.0	77	25.0	86	Calm	0	0	.....	5c	5s	W	W	0.50	12.7	Cloudy	
Montgomery, Alabama	29.70	754.4	29.92	760.0	77	25.0	82	Calm	0	0	.....	.....	10s	.....	Calm	1.02	25.9	Cloudy	
Morgantown, West Virginia	28.84	732.5	29.83	757.7	75	23.9	72	S	1	0.4	.....	0	2s	.....	SW	0	0	Fair	
Mt. Washington, N. H.	23.86	606.0	30.22	767.6	49	9.4	93	NW	5	2.2	.....	8k	0	NW	.....	0.14	3.6	Fair	
Nashville, Tennessee	29.36	745.7	29.87	758.7	80	26.7	78	Calm	0	0	.....	Haze	5s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.75	755.6	29.87	758 7	78	25.6	69	Calm	0	0	.....	2c	Haze	Calm	Calm	0	0	Clear	
New London, Connecticut	29.82	757.4	29.87	758.7	77	25.0	77	Calm	0	0	.....	2cs	Haze	W	Calm	0	0	Fair	
New Orleans, Louisiana	29.87	758.7	29.94	760.5	80	26.7	78	SW	5	2.2	.....	.....	10ks	.....	SW	1.85	47.0	Cloudy	
Newport, Rhode Island	29.82	757.4	29.86	758.4	74	23.3	76	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.69	754.1	29.86	758.4	74	23.3	76	W	1	0.4	.....	2cs	Haze	Calm	Calm	0	0	Fair	
Norfolk, Virginia	29.84	757.9	29.89	759.2	80	26.7	78	S	6	2.7	.....	Haze	Haze	.....	.....	0	0	Hazy	
North Platte, Nebraska	27.09	688.1	29.54	750.3	68	20.0	90	NE	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Olympia, Washington Ter.	29.94	760.5	29.98	761.5	48	8.9	96	S	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.79	731.3	29.89	759.9	74	23.3	86	N	4	1.8	.....	0	2ks	.....	NW	0	0	Fair	
Oswego, New York	29.54	750.3	29.84	757.9	70	21.1	80	S	4	1.8	.....	2k	5ks	NW	NW	0	0	Fair	
Pembina, Dakota	29.08	738.6	29.88	758.9	59	15.0	94	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.80	756.9	29.85	758.2	77	25.0	73	SW	2	0.9	.....	1ck	Haze	Calm	Calm	0	0	Clear	
Phœnix, Arizona	28.64	727.4	.....	.....	98	36.7	38	SW	.....	.....	1	8c	0	Calm	.....	0	0	Cloudy	
Pike's Peak, Colorado	18.10	459.7	30.31	769.9	42	5.6	66	SW	26	11.6	.....	5k	2s	SW	SW	0	0	Fair	
Pioche, Nevada	24.14	613.1	29.91	759.7	71	21.7	29	SE	12	5.4	.....	0	2ks	.....	S	0	0	Fair	
Pittsburg, Pennsylvania	29.05	737.9	29.83	757.7	67	19.4	84	Calm	0	0	.....	5c	Fog	NW	Calm	0	0	Fair	
Port Huron, Michigan	29.16	740.7	29.78	756.4	72	22.2	76	SW	2	0.9	.....	5k	Sm'e	W	.....	0	0	Fair	
Portland, Maine	29.80	756.9	29.85	758.2	62	16.7	88	NE	2	0.9	.....	0	Fog	.....	.....	0	0	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Oregon	29.94	760.5	30.05	763.3	53	11.7	86	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Prescott, Arizona	24.86	631.4	30.22	767.6	62	16.7	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.97	761.2	29.99	761.7	84	28.9	75	SW	6	2.7	.....	5k	0	SW	.....	0	0	Fair	
Red Bluff, California	29.51	749.5	29.86	758.4	69	20.6	61	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.24	742.7	29.83	757.7	67	19.4	79	W	5	2.2	.....	8k	0	W	.....	0.02	0.5	Fair	
Roseburg, Oregon	29.47	748.5	30.04	763.0	50	10.0	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.79	756.7	29.88	758.9	57	13.9	75	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.30	744.2	29.84	757.9	79	26.1	70	NE	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
St. Marks, Florida	29.92	760.0	29.94	760.5	78	25.6	86	SE	4	1.8	.....	5k	5s	W	W	0	0	Cloudy	
St. Paul, Minnesota	29.00	736.6	29.78	756.4	68	20.0	74	N	4	1.8	.....	1k	0	N	.....	0	0	Clear	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	73	22.8	55	E	10	4.5	.....	2k	2s	SW	Calm	0.01	0.3	Fair	
San Antonio, Texas	29.18	741.2	29.73	755.1	78	25.6	91	Calm	0	0	.....	5k	0	Calm	.....	0.06	1.5	Fair	
San Diego, California	29.85	758.2	29.92	760.0	64	17.8	89	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.22	742.2	29.86	758.4	70	21.1	80	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.83	757.7	29.86	758.4	76	24.4	77	NW	2	0.9	.....	5c;k	0	NW	.....	0	0	Fair	
San Francisco, California	29.88	758.9	29.94	760.5	55	12.8	87	SW	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.44	595.4	29.98	761.5	63	17.2	52	NE	3	1.3	.....	1c	2s	Calm	Calm	0	0	Fair	
Savannah, Georgia	29.84	757.9	29.93	760.2	80	26.7	87	W	6	2.7	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Shreveport, Louisiana	29.64	752.8	29.85	758.2	76	24.4	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Silver City, New Mexico	24.37	619.0	.....	.....	61	16.1	77	Calm	0	0	.....	0	0	.....	.....	0.50	12.7	Clear	
Smithville, North Carolina	29.87	758.7	29.91	759.7	79	26.1	82	SW	8	3.6	.....	8cs	1s	W	SW	0.49	12.4	Cloudy	
Springfield, Massachusetts	29.69	754.1	29.81	757.2	73	22.8	76	SW	1	0.4	.....	9ck	0	SW	.....	0	0	Cloudy	
Stockton, Texas	26.91	683.5	29.91	759.7	68	20.0	38	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.80	756.9	29.86	758.4	63	17.2	94	NE	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Toledo, Ohio,	29.15	740.4	29.78	756.4	76	24.4	73	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.28	692.9	29.84	757.9	81	27.2	70	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.90	759.4	29.92	760.0	78	25.6	86	SW	5	2.2	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
Umatilla, Oregon	29.55	750.6	.....	.....	68	20.0	60	Calm	0	0	.....	0	Sm'c	.....	W	0	0	Fair	
Vicksburg, Mississippi	29.66	753.4	29.91	759.7	76	24.4	91	N	2	0.9	.....	.....	10s	.....	Calm	0.09	2.3	Cloudy	
Virginia City, Montana	24.37	619.0	29.85	758.2	64	17.8	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.54	750.3	29.90	759.4	65	18.3	59	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.75	755.6	29.86	758.4	75	23.9	77	NW	6	2.7	.....	2k	0	Calm	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	40	N	.....	.....	1	.....	10s	.....	S	0	0	Threatening	
Wilmington, N. Carolina	29.82	757.4	29.89	759.2	78	25.6	86	SW	6	2.7	.....	8c	0	Calm	.....	0.11	2.8	Fair	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	56	13.3	29	S	8	3.6	.....	5k	0	SW	.....	0	0	Fair	
Wood's Holl, Mass	29.81	757.2	29.87	758.7	72	22.2	85	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.64	727.4	29.86	758.4	69	20.6	80	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.61	752.1	29.77	756.1	81	27.2	74	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.											.....								
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.82	757.4	29.87	758.7	54.0	12.2	90	SE	11	4.9	.....	2c	0	SE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.93	760.2	29.95	760.7	82	27.8	78	E	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	84	28.9	75	E	3	1.3	.....	2c	2s	E	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	82	27.8	87	Calm	0	0	.....	10c	8n	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	83	28.3	.....	E	30.8	13.8	.....	.....	.....	.....	.....	0.02	0.5	Light shower	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.05	763.3	30.05	763.3	79	26.1	87	SE	.....	.....	2	5ck	3s	E	.....	0.300	7.62	½ Cloudy	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.27	641.8	.....	.....	65.0	18.3	82	Calm	0	0	.....	.....	10n	.....	.....	0.03	0.8	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.05	763.3	78.5	25.8	78.5	25.8	89	Calm	0	0	....	.....	8	.....	Calm	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.87‡	758.7‡	.....	.....	65	18.3	89	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.	
Naval Hospital, Yokohama, Japan	29.87*	758.7*	77.3	25.2	75.5	24.2	88	E	.....	.....	2	.....	10cs	.....	SSE	0.07	1.8	.....	.....	Overcast.....	
Adams. Pago-Pago	30.02	762.5	81	27.2	80	26.7	91	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	.....	Pleasant... ..	
Alliance. Havre, France	29.82‡	757.4‡	.....	.....	65	18.3	78	WSW	.....	.....	1	.....	7	.....	W	.....	.....	.....	.....	Cloudy..... .	
Ashuelot. Nagasaki, Japan	30.00	762.0	83	28.3	82	27.8	96	SSW	.....	.....	2	.....	5	.....	SSW	.....	.....	.....	.....	Fair.....	
Canonicus. New Orleans, La	29.95	760.7	56	13.3	77	25.0	95	S	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Cloudy.....	
Colorado. New York, N. Y	29.81‡	757.2‡	.....	.....	76	24.4	73	SSW	1	0.4	.....	.....	5	.....	SW	0	0	.....	.....	Foggy	
Constitution. Havre, France	29.79‡	756.7‡	.....	.....	63	17.2	100	SW	.....	.....	2	.....	9	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Despatch. Volo, Turkey	29.86‡	758.4‡	.....	.....	80	26.7	78	SSE	.....	.....	2	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Franklin. Norfolk, Va	30.01	762.2	78	25.6	77	25.0	100	SSE	6	2.7	.....	.....	2	.....	SSE	0	0	.....	.....	Clear	
Gettysburg Villefranche, France	29.81‡	757.2‡	.....	.....	82	27.8	91	ESE	.....	.....	1	.....	2	.....	Calm	0	0	Light	S	Clear.....	
Hartford. Rio de Janeiro, Brazil	30.39	771.9	.....	.....	71	21.7	75	NNW	1.0	0.4	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy.....	
Marion. Villefranche, France	29.91	759.7	76	24.4	77	25.0	73	ESE	.....	.....	1	.....	2	.....	SE	0	0	Smooth	S	Fair.....	
Michigan. Lake Huron	29.34	745.2	74	23.3	67	19.4	84	W	.....	.....	2	....	2	.....	W	.....	.....	.....	.....	Fair.....	
Monocacy. Yokohama, Japan	29.86‡	758.4‡	.....	.....	78	25.6	78	NE	.....	.....	2-3	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
New Hampshire. Port Royal, S. C	30.10†	764.5†	.....	.....	79	26.1	82	WSW	11	4.9	.....	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
Onward. Callao, Peru	30.10†	764.5†	.....	.....	61	16.1	82	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty....	
Palos. Tientsin, China	29.70	754.4	85	29.4	81	27.2	78	E	.....	.....	1-2	.....	2	.....	S;E	.....	.....	.....	.....	Clear.....	
Pensacola. Mare Island, California	30.00	762.0	62	16.7	56	13.3	93	SSW	17	7.6	.....	.....	2	.....	SSW	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y	29.83‡	757.7‡	.....	.....	78	25.6	78	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Ranger. Hong-Kong, China	29.93	760.2	81.5	27.5	81	27.2	95	Calm	.....	.....	0	.....	8	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo. Brownsville, Texas	29.87	758.7	80	26.7	80	26.7	96	S	.....	.....	2	.....	1	.....	N	.....	.....	.....	.....	Clear.....	
Santee. Annapolis, Md	29.81‡	757.2‡	.....	.....	80	26.7	66	NW	.....	.....	1	.....	2	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis. League Island, Pa	29.83	757.7	75	23.9	75	23.9	86	SW	2	0.9	.....	.....	2	.....	W	0	0	.....	.....	Fair.....	
Supply. Havre, France	29.88	758.9	65	18.3	65	18.3	78	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara. Boston, Mass	29.85‡	758.2‡	.....	.....	69	20.6	85	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton. Cherbourg, France	29.78‡	756.4‡	.....	.....	72	22.2	67	W	.....	.....	3	.....	3	.....	W	0	0	.....	.....	Fair.....	
Tuscarora. N. 16° 20', W. 98° 36'	29.70	754.4	79	26.1	78	25.6	86	NNE	.....	.....	3	.....	2	.....	Calm	0	.....	Long mod'ate	S	Clear.	
Vandalia. Naples, Italy	29.92‡	760.0‡	.....	.....	78	25.6	78	WNW	.....	.....	3	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Wabash. Boston, Mass	29.84‡	757.9‡	.....	.....	71	21.7	95	NW	1	0.4	.....	.....	5	.....	Calm	0.09	2.3	.....	.....	Fair	
Wyoming. N. 42° 46', W. 62° 38'	29.92†	760.0†	.....	.....	66	18.9	94	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Anerold Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 10′, E. 152° 10′		29.90*	759.4*	66	18.9	100	E			4		10		E	24hours	Heavy	E	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 35° 10′, E. 161° 52′		30.03†	762.7†	68	20.0	95	N	3	1.3			10		NW	Light	Mod'ate	N	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Seattle, W. T.		29.85†	758.2†	55	12.8	87	Calm			0		0							Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 32° 44′ W. 135° 11′		30.47‡	773.9‡	67	19.4	??	NW			3		10		Calm	0	Smooth	NW	Fine	Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 48° 27′, W. 41° 12′		30.10*	764.5*	59	15 0	100	W			2				SW	0	None		D. clouds.	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, N. 39° 12′, W. 136° 02′		29.89*	759.2*	64	17.8	78	W			6		ks		W		Mod,ate	W	Squally	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 49° 13′, W. 21° 14′		29.95	760.7	69	20.6	75	NNE			4		5		NE	0	3	NE		Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		Character.	Direction From—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 41° 10′, W. 59° 5′		29.91*	759.7*	78	25.6	91	SSE			1		1		NW	Light	Light	NW	Clear	Captain Sargent.
S. S. Ohio, N. 51° 9′ 30″, W. 32° 2′		30.25	768.3	62	16.7	88	N			3		10		N	0	Small	N	Dull	Captain Morrison.
S. S. Pennsylvania																			Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.43*	772.9*	46.5	8.1	94	ENE			1	0	6ks		SSW				Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 5, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador			29.99	761.8	81.9	27.7	59	NW			1		1			0	0		Dr. Ollive.
Nemours			29.89	759.1	86.0	30.0	50	NNE			3		0			0	0	Very fair.	Kesxuche.
Algiers			29.89	759.1	86.0	30.0	50	NNE			3		0			0	0	Clear.	Tourillere.
La Calle			29.92	759.9	81.5	27.5	72	ENE			3		3			0	0	Pretty fair.	Foufrede.
Tunis			29.98	761.5															Jacques.
Sfax			30.04	763.0	86.0	30.0		NE			4		1			0	0	Very fair.	Gau.
Saida			30.03	762.7	91.4	33.0	24	NNW			1		0			0	0	Clear.	Herbin.
Tebessa			29.97	761.3	96.8	36.0		N			4		0			0	0	Clear.	Watrin.
Geriville			30.04	763.0	96.8	36.0		SSE			8		9			0	0	Covered	Brugnlaux.
Laghouat			30.02	762.6	99.0	37.2	12	NW			1		0			0	0	Clear.	Bertrand.
Biskra			30.00	761.9	99.5	37.5	29	E			1		1			0	0	Very fair.	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.37	746.1	29.89	759.1	77.4	25.2	62	NW			2		6						Prof. Ivan Stozi.
Cracow	29.16	740.6	29.87	758.8	78.8	26.0	50	SE			1		3			0	0		Prof. Dr. Karlinski.
Eperies	29.02	737.2	29.86	758.5	75.6	24.2	66	Calm			0		10k;s			0.118	3.00		Julius Mikolik.
Gratz	28.72	729.4	29.93	760.1	70.2	21.2	81	S			3		8			0.010	0.25		Andreas Rospini.
Hermannstadt	28.44	722.3	29.79	756.6	73.4	23.0	53	E			1		4			0	0		Prof. Reissenberg
Kremsmünster	28.59	726.1	29.87	758.7	72.7	22.6	66	NE			3		3			0.071	1.8		Prof. C. Wagner
Lemberg	28.89	733.9	29.87	758.6	70.9	21.6	59	SE			1		6			0.201	5.1		Dr. T. Stanecki.
Pola	29.82	757.4	29.93	760.1	79.2	26.2	67	WNW			2		4cs			0	0		I.R.Hydrographic Office
Szathmar	29.42	747.2	29.86	758.4	80.6	27.0	43	E			3		2			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.82	757.4	29.96	761.0	76.3	24.6	63	NW			1		2			0	0	Clear.	P. Busin.
Vienna	29.23	742.4	29.91	759.8	75.7	24.3	64	W			1		3			0.106	2.7		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.49	723.6	29.93	760.3	74.1	23.4	44	SSE			2		6			0	0		Prof. M. Passau.
Brussels	29.72	755.0	29.92	759.9	75.4	24.1	51	SSW			2	0	6	S?	SSE	0	0		Royal Observatory
Furnes	29.92	760.0	29.95	760.6	79.5	26.4	68	SE			1		5			0.150	3.8		M. E. de Cae.
Maeseyck	29.85	758.1	29.97	761.3	75.4	24.1	61	SSW			2		7			0.083	2.1		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru-m'tal error and temperature. Inches.	Millimeters.	Reduced to sea-level. Inches.	Millimeters.	Temperature of the Air. Fahrenheit.	Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Velocity. Miles per hour.	Meters per second.	Force 0—10.	Clouds. Amount. Up'er 0—10.	Low'r 0—10.	Direction. Upper. From—	Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Millimeters.	Weather.	OBSERVER.
Aberdeen	29.95	760.7	30.04	763.0	59.2	15.1	.....	ESE	8	3.6	.....	.....	10	.....	.....	0.005*	0.13*	Overcast.....	W. Boswell.
Ardrossan	29.84	757.9	29.86	758.4	72	22.2	.....	SSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	29.81	757.2	58.3	14.6	.....	ESE	9	4.0	.....	.....	10	.....	.....	.....	.....	Drizzling.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29 85	758.2	65.2	18.4	.....	ESE	15	6.7	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.48	748.8	29.67	753.6	64.8	18.2	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.52	749.8	29.91	759.7	67.7	19.8	.....	E	.....	.....	4	.....	4	.....	.....	0.43	10.9	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	76.5	24.7	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.89	759.2	79.0	26.1	.....	S	.....	.....	2	.....	5	.....	.....	Blank	Blank	D. clouds.....	H. Todd. [H.C.
Cardington	.....	.....	29.88	758.9	75.0	23.9	.....	E	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E	29.76	755.9	29.88	758.9	76.2	24.6	.....	S	.....	.....	4	.....	3	.....	.....	.....	.....	Blue sky.....	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.35	720.1	29.78	756.4	64.4	18.0	.....	E	.....	.....	3	.....	4	.....	.....	.....	.....	Fine	Alexander Watt. [Col. Mar-
Donaghadee	29.79	756.7	29.81	757.2	63	17.2	.....	NE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	tin, R. E. J. Mac Gowan.
Dover	29.86	758.4	29.88	758.9	69	20.6	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Clear	J. Costello.
Eccles, (near Manchester)	.....	.....	29.87	758.7	68.5	20.3	.....	SE	1.4	0.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Falmouth, Observatory	29.58	751 3	29.81	757.2	65.6	18.7	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.67	702.8	29.95	760.7	71.0	21.7	.....	E	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.76	755.9	30.00	762.0	84.5	29.2	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.65	753.1	68	20.0	.....	NE	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.91	759.7	29.96	761.0	81.2	27.3	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.70	754.4	29.99	759.4	67.0	19.4	.....	E	.....	.....	4	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.94	760.5	29.95	760.7	67	19.4	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.70	754.4	29.87	758.7	76.9	24.9	.....	SE	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.61	752.1	29.84	757.9	66	18.9	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.84	757.9	70	21.1	.....	S	.....	.....	4	.....	3c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.77	756.1	29.82	757.4	66	18.9	.....	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.57	751.1	29.85	758.2	68.0	20.0	.....	SE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.86	758.4	75.0	23.9	.....	SE	14	6.3	.....	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	29.73	755.1	29.75	755.6	61	16.1	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	George Mitchell.
Leicester, Museum	.....	.....	29.87	758.7	70.9	21.6	.....	SE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.85	758.2	29.92	760.0	80	26.7	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.90	759.4	29.99	761.7	70	21.1	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.01	762.2	80.0	26.7	.....	SW	.....	.....	0	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.70	754.4	29.89	759.2	74.7	23.7	.....	SE	.....	.....	4	.....	7ks;k	.....	SE	0.077	1.96	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.38	746.2	29.88	758.9	68.9	20.5	.....	SSE	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.87	758.7	72	22.2	.....	SE	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds.....	H.E. Bellamy.
Plymouth	29.74	755.4	29.81	757.2	67.8	19.9	.....	SE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	John Merrifield
Roche's Point	29.65	753 1	29.70	754.4	65	18.3	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	29.61	752.1	29.77	756.1	64	17.8	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds..	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.11	764.8	67.1	19.5	.....	ENE	22	9.8	.....	.....	0	.....	.....	.....	.....	Blue sky.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.72	754.9	75.4	24.1	.....	NE	.....	.....	1	.....	7	.....	.....	Blank	Blank	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. F. Cooper.
Silloth Rectory	29.86	758.4	29.89	759.2	71.4	21.9	58	SE	.....	.....	4	.....	6	.....	.....	0.040	1.02	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.50	749.3	29.91	759.7	64.5	18.1	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	29.94	760.5	29 97	761.2	64	17.8	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	30.08	764.0	70	21.1	.....	E	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.81	757.2	72	22.2	.....	S	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.65	753.1	64.9	18.3	.....	E	15	6.7	.....	.....	10	.....	.....	Blank	Blank	D. clouds.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.94	760.5	50.0	10.0	93	S	.....	.....	2	.....	10kn	.....	.....	0.4	10.	Covered.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.89	759.2	30.08	764.2	70.5	21.4	76	ESE	17.5	7.8	.....	2	4	.....	ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	30.03	762.7	30.12	765.0	46.1	7.8	87	NW	4	1.8	.....	.....	9	.....	SW	0.02	0.5	.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudinss for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m. *Dew.

Marine Series. Vessels.	Wind. Direction. From—	Force 0—10.	Clouds. Amount. 0—10.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 45° 35′ W. 41° 55′	SE	4	10	5*	SE	Drizzling.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 61° 12′, W. 48° 10′	Var.	1	10	.....	.....	Foggy	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....
Barque Sorata	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 43° 10′, W. 62° 35′	SSE	3	10	1	.....	Misty.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.25	666.7	.....	.....	63.5	17.5	95	SE	.....	.....	1	p	3c	.....	.....	0.23	5.8	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.04	763.1	30.09	764.3	71.5	21.4	60	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....
Fanöe	29.99	761.7	30.01	762.2	74.7	23.7	71	E	.....	.....	6	.....	7	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	30.16	766.0	30.20	767.1	41.4	5.2	92	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	30.15	765.9	30.20	767.0	55.0	12.8	82	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	30.18	766.6	30.22	767.5	55.0	12.8	86	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.88	759.0	30.05	763.3	75.6	24.2	44	NE	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.35	745.6	29.91	759.6	73.8	23.2	69	S	.....	.....	1	.....	8	.....	.....	0	0	Very cloudy	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.88	758.9	29.96	760.9	82.0	27.8	58	S	.....	.....	2	.....	2	.....	W	0	0	Partly cl'dy	M. Girand, Director.
Bar-sur-Seine	29.34	745.2	29.87	758.6	77.9	25.5	39	SE	.....	.....	1	.....	5n	.....	SE	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.60	751.9	29.87	758.8	77.0	25.0	49	SE	.....	.....	1	.....	10	.....	SW	0	0	Covered	Frere Eugene Marie, Director.
Besançon	29.08	738.6	29.93	760.2	78.1	25.6	59	SSE	.....	.....	2	.....	2	.....	SW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School	29.04	737.6	29.97	761.2	84.4	29.1	97	S	.....	.....	1	.....	5k	.....	N	0	0	Cloudy	M. Marlot, Director.
Bourges, Normal School	29.30	744.1	29.82	757.5	78.4	25.8	49	SE	.....	.....	1	2c	.....	SE	.....	0.386	9.8	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.50	749.4	29.75	755.6	72.7	22.6	62	SSW	.....	.....	1	.....	9	.....	SSW	0	0	Stormy	The Staff.
Carcassonne, Normal School	29.45	748.0	29.84	758.0	77.4	25.2	69	E	.....	.....	2	.....	10	E	.....	0	0	Covered	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.25	742.9	29.78	756.5	78.8	26	72	E	.....	.....	4	.....	5	.....	NE	0	0	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.5	29.89	759.2	81.0	27.2	50	Calm	.....	.....	0	.....	5	.....	.....	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.53	724.7	29.83	757.7	81.0	27.2	43	E	.....	.....	1	.....	.....	.....	SW	0	0	.....	Alluard, Director.
Commercy, Normal School	29.11	739.4	29.95	760.6	72.7	22.6	58	E	.....	.....	3	.....	2k	.....	E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	28.88	733.6	30.02	762.6	80.6	27.0	44	SE	.....	.....	4	.....	8	.....	SE	0	0	¾ Covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.61	752.2	29.82	757.5	68.7	20.4	91	NW	.....	.....	1	.....	8	.....	NE	0	0	Very cloudy	Monillot, Director.
Le Mans, Normal School	29.55	750.5	29.85	758.1	67 8	19.9	74	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.01	736.8	29.87	758.6	82.2	27.9	45	W	.....	.....	1	.....	2	.....	E	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	77.7	25.4	73	SSW	.....	.....	1	.....	5	.....	SSW	0	0	Cloudy	M. Galzin, Director.
Mirecourt, Normal School	28.92	734.6	29.93	760.1	73.3	23	45	SSW	.....	.....	1	.....	2 ck	.....	N	0	0	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	29.72	755.0	29.93	760.1	82.8	28.2	57	S	.....	.....	2	.....	2	.....	S	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bernard, Director.
Paris, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	National Observatory.
Privas, Normal School	28.91	734.2	29 91	759.8	81.0	27.2	37	S	.....	.....	1	.....	1	S	S	0	0	Clear	M. Cantier.
Puy de Dome (Summit)	25.11	637.9	.....	.....	59.2	15.1	96	W	.....	.....	2	.....	.....	.....	.....	0	0	Stormy	Alluard, Director.
Rochefort, Naval Obs'y	29.78	756.3	29.81	757.1	81.7	27.6	52	W	.....	.....	3	.....	10	.....	W	0	0	Covered	M. Giguel, Director.
Rouen, Normal School	29.77	756.2	29.85	758.3	80.6	27.0	46	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.81	757.2	69.8	21.0	68	N	.....	.....	1	.....	8	.....	NNE	0	0	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	29.09	738.8	30.15	765.8	64.4	18	80	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	T. Huguet, Director.
Villefranche, Normal School	29.22	742.2	29.89	759.2	84.6	29.2	65	SE	.....	.....	1	.....	2	.....	.....	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	758.9	29.91	759.6	77.7	25.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.45	240.	.....	L'Abbé Marchès.
Lyons	.....	.....	29.93	760.2	77.7	25.4	53	.....	.....	.....	.....	.....	8	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.93	760.1	80.4	26.9	54	ESE	.....	.....	1	.....	7	.....	.....	0	0	Very cloudy	The Staff.
Mont-Louis	24.85	631.2	30.17	766 2	70.7	21.5	39	SW	26.1	11.67	.....	.....	2	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	29.99	761 7	75.2	24.0	77	E	.....	.....	2	.....	2	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.59	751.5	29.86	758.5	81.9	27.7	38	SE	.....	.....	2	.....	3	.....	SE	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	29.87	758.8	77.0	25.0	79	E	11.2	5.00	.....	.....	5	.....	N	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.58	573.4	.....	.....	57.2	14.0	.....	SW	.....	.....	4	.....	5	.....	.....	0.051	1.3	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.71	754.5	29.87	758.7	80.4	26.9	36	SSE	.....	.....	1	.....	1	W	S	0.028	0.7	Solar halo	E. Renou.
Toulouse, Observatory	29.17	741.0	29.89	759.3	81.1	27.3	53	SSE	.....	.....	2	.....	4	.....	.....	0	0	.....	The Staff.
Tours	29.61	752.0	29.80	757.0	78.4	25.8	41	SE	.....	.....	1	.....	8	.....	SW	0	0	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	29.89	759 1	80.6	27.0	30	S	.....	.....	1	.....	3	.....	.....	0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.80	756.9	29.82	757.5	81.7	27.6	87	SE	7.2	3.2	.....	.....	0	.....	.....	0	0	Clear	Marc Dechevrens, S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1.010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit. °	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.0	29.89	759.3	73.0	22.8	68	WSW			2		2	SW		0	0		Prof. Dr. Hoh.
Berlin	29.82	757.4	29.98	761.6	75.0	23.9	65	SE			3		8			0.020	0.5	Light rain	Prof. Arndt.
Breslau	29.46	748.3	29.99	761.8	81.3	27.4	42	E			2		4			Inap.	Inap.		Royal University Obs'y
Carlsruhe	29.51	749.5	29.92	759.9	77.0	25.0	59	SE			1		9			0	0		Albert Senz.
Cassel	29.38	746.2	29.98	761.6	79.2	26.2	49	NNW			1		7	SW		0	0		Dr. H. Möhl.
Crefeld	29.77	756.2	29.93	760.3	78.6	25.9	43	S			2		4k			0	0		Director Lose.
Emden	29.87	758.6	29.91	759.6	73.0	22.8	73	E			3		5			0.283	7.2	Lightning	Prof. Prestel.
Frankfort on the Main	29.61	752.2	29.96	761.0	80.6	27		SSW			1		3			0	0		Physical Society.
Friedrichshafen	28.53	724.6	29.91	759.6	71.6	22.0	70	WNW			3		1			0	0		M. Wilhelm.
Hamburg	29.95	760.6	30.01	762.3	69.3	20.7	91	Calm			0		10			0.322	8.2	Raining	Captain F. Hegemann.
Kiel	30.00	762.1	30.02	762.5	70.9	21.6	75	NE			2		8			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.97	761.1	30.04	763.1	77.9	25.5	57	E			2		2			0	0		Prof. E. Luther.
Köslin			30.02	762.4	73.4	23.0		NE			2		4			0	0		H. Müller.
Leipsic, Observatory	29.59	751.5	29.99	761.8	71.2	21.8	74	ENE			3		8	ENE		0	0		Prof. Bruhns.
Memel, Naval School	30.04	762.9	30.08	764.1	74.8	23.8	27	NE			2		0						Reinbrecht and Skalweit.
Neufahrwasser	30.06	763.5	30.08	763.9	69.6	20.9	79	NNE			2		0			0	0		A. Lothes.
Posen	29.76	756.0	30.04	763.0	77.9	25.5	48	E			5		7			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	29.94	760.4	77.5	25.3	42	NE			2		9			0	0		Astronomical Observatory.
Stuttgart	29.01	736.8	29.89	759.3	80.6	27.0	34	SE					4	W		0	0		Prof. Schoder.
Treves, (Trier)	29.30	744.1	29.82	757.3	77.7	25.4	43	W			1		8			0	0	Light fog	Prof. Flesch.
Weissenburg, (Bavaria)	28.48	723.4	29.94	760.4	75 6	24.2	43	SSE	0.9	0.4			5ck		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	30.03	762.7	30.07	763.7	74.5	23.6	66	NE			4		3			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.35	745.6	29.73	755.1	85.1	29.5		SE			5.5		ck					Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Deesa	28.99	736.3	29.45	748.1	86.2	30.1	78	ESE					6		ESE	0.06	1.5	D. clouds	
Bombay	29.54	750.4	29.58	751.4	80.3	26.8	90	WSW	21	9.4			10		WNW	2.65	67.3	Overcast	
Poona	27.61	701.3	29.61	752.1	75.0	23.9	86	W					10		W	0.30	7.6	Overcast	
Lahore	28.69	728.7	29.46	746.8	91.6	33.1	65	SE	1.9	0.8			5			0	0	D. clouds	
Belgaum	27.16	689.8	29.70	754.3	72.0	22.2	95	WNW	12	5.4			10		W	1.10	27.9	Showery	
Bangalore																			
Poorkee	28.54	725.0	29.41	747.0	89.8	32.1	68	Calm	2.2	1.0			2			0	0		
Agra	28.86	733.1	29.40	746.8	95.6	35.3	53	Calm					2			0	0		
Trichinopoly																			
Nagpur	28.45	722.7	29.47	748.6	86.1	30.1	71	SW	5.6	2.5			5			0	0	D. clouds	
Madras																			
Lucknow																			
Allahabad	29.10	739.2	29.40	746.8	92.2	33.4	66	SE	3.5	1.6			5		E	0	0	D. clouds	
Patna	29.26	743.1	29.43	747.6	88.0	31.1	73	E	1.4	0.6			4	E	E	0	0	D. clouds	
Hazaribagh	27.49	698.2	29.46	748.3	82.3	27.9	79	ESE	7.9	3.5			8		E	0.42	10.7	Raining	
Cuttack	29.41	747.0	29.49	749.0	82.0	27.8	83	SSW	2.4	1.1			10			0.50	12.7	Drizzling	
Calcutta (Alipore)	29.46	748.4	29.49	749.0	84.7	29.3	83	SSE	4.0	1.8			8	SE	SE	0	0	D. clouds	
Goalpara	29.14	740.1	29.52	749.9	81.2	27.3	86	ESE	5.4	2.4			9	E		2.59	65.8	D. clouds	
Chittagong	29.48	748.9	29.58	751.2	81.4	27.4	89	SE	7.6	3.4			10			0	0	Overcast	
Sibsagar	29.20	741.6	29.52	749.9	86.8	30.4	77	WSW	0.9	0.4			10	SW	SW	0	0	D. clouds	
Rangoon																			
Jubbulpore	28.12	714.3	29.46	748.4	82.8	28.2	79	SW	3.4	1.5			8			1.03	26.2	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.57	751.0	29.96	761.0	77.5	25.3	63	SW	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.84	757.9	29.95	760.6	80.2	26.8	56	S	0.7	0.3	.....	.....	8	SE	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.76	755.8	29.94	760.4	81.0	27.2	57	ESE	1.3	0.6	.....	.....	5	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.65	727.7	29.92	759.9	79.9	26.6	57	SSW	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.44	747.8	29.94	760.5	80.6	27.0	58	W	.....	.....	1	.....	7	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.07	738.4	29.94	760.5	76.8	24.9	64	SSE	4.3	1.9	.....	.....	7	SW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.08	713.3	29.92	759.9	75.0	23.9	55	NE	.....	.....	4	.....	5	WNW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.79	756.6	30.00	762.0	73.9	23.3	75	E	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.82	757.4	29.98	761.6	75.2	24 0	66	SW	.....	.....	2	.....	2	E	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.62	752.4	29.93	760.2	80.2	26.8	58	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.72	754.8	29.97	761 1	80.6	27.0	48	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.88	759.0	29.96	761.0	77.0	25.0	64	W	4.9	2.2	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.91	759.7	29.96	760.9	76.1	24.5	68	N	.....	.....	.....	.....	4	NE	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.47	723.1	29.97	761.3	74.5	23.6	59	NE	.....	.....	1	.....	4	.....	.....	0.480	12.2	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.78	756.5	29.95	760.8	85.3	29.6	40	WSW	15.0	6.7	.....	.....	1	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.75	755.6	29.94	760 5	81.9	27.7	57	S	.....	.....	4	.....	2	NW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.64	752.9	29.89	759.1	78.1	25.6	55	WNW	19.9	8.9	.....	.....	3	NW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.74	755.4	29.93	760.1	83.1	28.4	58	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.05	737.9	29.90	759 4	84.6	29.2	67	SW	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.75	755.6	29.99	761.8	79.7	26.5	50	NE	6.9	3.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	759.0	29.96	760.9	79.3	26.3	69	SE	.....	.....	2	.....	1	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.41	747.0	29.97	761.1	81.0	27.2	55	WSW	1.3	0.6	.....	.....	2	SW	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.79	756.6	29.98	761.5	79.9	26.6	87	SSW	5.2	2.3	.....	.....	5ks	.....	SW	0.030	0.76	Cloudy.....	
Tokei (Yeddo) Observatory	29.82	757.4	29.89	759.2	76.9	24.9	90	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy.....	I. Arai, Director.
Tokei (Yeddo) University	29.78	756.4	29.88	759.0	83	28.3	93	SW	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy.....	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.4	18.0	95	W	1.8	0.8	.....	0	10n	.....	SE	0.91	23.2	Covered.....	L. Castillo, A. E.
Guadalajara	25.07	636.8	30.02	762.3	60.4	15.8	89	NW	0.9	0.4	.....	0	10	.....	NW	0.55	14.0	Covered.....	Prof. L. Perez.
Guanajuato	24.40	619.6	29.91	759.6	64.2	17.9	84	SE	0.9	0.4	.....	0	6kn	.....	NE	0.44	11.2	½ cloudy.....	Prof. V. Fernandez
Leon	23.10	586.8	30.07	763.8	59.0	15.0	91	Calm	0	0	.....	0	10k	.....	W	0.03	0.8	Covered	Prof. M. Leal.
Mexico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.3	17.4	92	Calm	0	0	.....	0	9kn	.....	.....	0.51	12.8	Very cloudy	M. V. de Leon, M. E
Puebla	23.34	592.8	29.94	760.4	57.9	14.4	93	SSE	.....	.....	.....	0	10k	.....	S	0.14	3.6	Very cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.88	759.0	29.89	759.3	77.9	25.5	83	S	11.0	4.9	.....	0	10k	.....	.....	0.28	7.0	Dark.....	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.14	765.6	62.0	16.7	66	E	0.9	0.4	.....	2	5	W	E	0	0	Cloudy.....	G. Barroeta, M. D.
Vera-Cruz	29.90	759.5	29.93	760.1	79.7	26.5	87	NW	.....	.....	.....	0	9k	.....	.....	0.17	4.4	Raining.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	60.8	16.0	82	NE	0.9	0.4	.....	0	9	.....	NE	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	590.9	29.99	761.9	58.3	14.6	86	ESE	1.1	0.5	.....	0	10	.....	S	0.20	5.0	Covered.....	Prof. P. Spina, [M.M. D. D
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.38	720.8	29.99	761.8	80.4	26.9	86	S	1.8	0.8	.....	0	6	.....	N	0.57	14.8	½ cloudy.....	R. Banda, C. E.
San Juan E. Michapam	29.70	754.3	29.84	758.0	78.8	26.0	.....	Calm	0	0	.....	0	10k	.....	E	0	0	Covered.	Antonio Guerra y Guerra.

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,365.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.95	760.6	29.95	760.6	75.2	24.0	.....	E	.....	.....	2	.....	.....	.....	.....	0.945	24.0	.....	
Groningen	29.89	759.2	29.95	760.6	73.4	23.0	.....	ENE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.95	760.6	29.95	760.6	68.4	20.2	.....	NNE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.86	758.4	29.86	758.4	80.6	27.0	60	Calm	.....	.....	0	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.90	759.5	29.95	760.7	76.3	24.6	54	W	.....	.....	1	.....	2	.....	.....	0	0	Light cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter; at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.12	765 0	30.17	766.4	74.8	23.8	44	NNW	12.3	5.5	.....	.....	0	.....	.....	0	0	.....	
Brönø	30.17	766.4	30.21	767.4	67.2	14.0	67	N	18	8	.....	.....	0	.....	.....	0	0	.....	
Christiania	30.05	763.2	30.19	766.8	74.8	23.8	29	WSW	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsö	30.13	765.2	30.17	766.3	48.2	9.0	92	SW	4	2	.....	.....	10	.....	.....	0.157	4.0	Raining	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.86	758.4	30.05	763.2	68.9	20.5	91	E	11.2	5.0	.....	.....	5	.....	.....	0.157	4.0	.....	Dr. J. A. Sampaio.
Campo Major	28.98	736.1	29.97	761.3	76.6	24.7	48	SW	9.8	4.4	.....	.....	7	SW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.05	763.3	30.14	765.5	75.2	24.0	60	SW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.7	30.02	762.6	70.7	21.5	64	SW	18.6	8.3	.....	.....	5	.....	.....	0.071	1.8	.....	The Staff.
Ponta Delgada, (Azores)	30.03	762.7	30.10	764.5	72.0	22.2	88	ESE	7.4	3.3	.....	.....	10	.....	.....	0.087	2.2	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 20′, W. 18° 56′	.....	.....	30.08	764.1	72.1	22.3	.....	WNW	.....	.....	3	.....	8	.....	WNW	2	.....	D. clouds.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	30.02	762.4	77.0	25.0	.....	SSE	.....	.....	5	.....	1	.....	SSE	3	.....	Blue sky.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.08	764.1	62.6	17.0	.....	SW	.....	.....	1	.....	6	.....	SW	1	.....	D. Clouds ...	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 41′, 5″ W. 23° 03′	.....	.....	30.04	762.9	83.3	28.5	.....	SE	.....	.....	4	.....	4	.....	SE	2	WSW	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.1	73.4	23.0	.....	WNW	.....	.....	2	.....	9	.....	WNW	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.55	750.5	29.95	760.7	60.1	26.7	41	ENE	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.60	751.9	30.00	762.1	72.9	22.7	33	N	4	2	.....	.....	1	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.91	759.7	30.15	765.7	65.1	18.4	48	NE	11	5	.....	.....	1k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.16	766.1	30.18	766.5	57.7	14.3	54	E	9	4	.....	.....	3ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.14	740.1	29.74	755.3	77.7	25.4	41	N	13	6	.....	.....	6kn	.....	.....	.....	.....	Dust-haze...	Physical Cabinet.
Nikolaiev	29.66	753.4	29.73	755.2	77.4	25.2	75	NNE	4	2	.....	.....	5n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.65	753.0	29.67	753.5	76.1	24.5	75	NW	9	4	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.39	746.4	29.93	760 1	59.9	15.5	55	NNW	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.32	744.6	29.51	749.6	72.6	23.1	61	NNE	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.05	763.3	30.07	763.8	50.5	10.3	65	WNW	13	6	.....	.....	9k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.22	716.7	29.54	750.2	82.9	28.3	32	NW	22	10	.....	.....	7k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.60	751.7	29.51	749.6	88.7	31.5	34	WSW	4	2	.....	.....	4cks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.35	745.5	29.61	752.1	60.8	16.0	80	N	7	3	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.73	729.7	29.65	753.2	54.7	12.6	95	ENE	9	4	.....	.....	10	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Nukuss	29.27	743.5	29.48	748.9	90.9	32.7	38	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	27.98	710.8	29.55	750.6	88.7	31.5	51	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.36	745.8	29.86	758.5	71.4	21.9	36	NW	0	0	.....	.....	1	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.54	750.2	29.82	757.3	69.8	21.0	61	SSW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.59	751.5	29.73	755.1	75.0	23.9	89	NE	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.74	755.4	29.84	757.9	82.4	28	65	SW	1.4	0.61	.....	.....	2c	.....	.....	0	0	Clear.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.82	757.5	29.88	758.9	77.7	25.4	68	NE	3.0	1.36	.....	1	8	SW	.....	0.102	2.6	Almost cov..	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.00	685.8	.....	.....	78.8	26.0	54	SW	9.9	4.41	.....	.....	8	.....	.....	0	0	Cloudy.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.6	29.85	758.3	81.0	27.2	41	SW	17.2	7.67	.....	0	2	.....	.....	0	0	Clouds.....	The Staff.
Murcia, Met. Obs'y	29.74	755.3	29.90	759.4	96.6	35.9	40	N	1.9	0.86	.....	.....	.....	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.98	736.2	29.86	758 5	64.9	18.3	82	SW	16.1	7.22	.....	.....	10	.....	.....	0.346	8.8	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.4	30.00	762.1	79.9	26.6	80	Calm	0	0	.....	1c	1k	Calm	.....	0.130	3.3	Clear.....	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.1	74.8	23.8	75	W	13.6	6.1	.....	0	7	.....	W	0.004	0.1	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.95	760.6	30.04	762.9	84.9	29.4	81	SE	11.2	5.00	.....	2k	6k	E	E	0.020	0.50	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 656.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Haparanda	30.12	765.1	30.16	766.1	50.7	10.4	.....	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Umea	30.20	767.0	30.25	768.3	61 2	16.2	63	SW	.....	.....	7	.....	0	.....	.....	0	0	.....	
Hernosand	30.15	765.7	30.20	767.0	63.0	17.2	62	SSW	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	30.05	763.3	30.23	767.8	67.5	19.7	40	E	.....	.....	6	.....	0	.....	.....	0	0	.....	
Wisby	30.10	764.4	30.15	765.9	66.1	18.4	75	NNE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.12	765.1	30.20	767.0	71.2	21.8	29	NE	4.0	1.8	.....	.....	0	.....	.....	0.000	0.01	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.3	29.93	760.3	71.6	22.0	68	NNE	.....	.....	2	.....	4	.....	.....	0	0	Cloudy.....	The Observatory.
Zurich	28.36	720.4	29.93	760.2	76.6	24.7	58	NW	.....	.....	1	.....	3	.....	.....	0	0	Fair	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.6 m.m.; Thermometer, —0.4 cent.; Relative Humidity, +15 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.78	756.4	70.2	21.2	73	ENE	7	3.0	.....	.....	7	.....	WSW	0.630	16.0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.00	762.1	77.5	25.3	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.55	750.6	29.67	753.5	92.1	33.4	51	SW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.90	759.4	29.97	761.2	66.2	19.0	92	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.56	750.8	29.85	758.2	75	23.9	.....	SW	5	2.2	.....	2c	2s	SW	W	0	0	Clear.....	W. R. Bigg.
*Chatham, N B	29.94	760.5	30.00	762.0	65	18.3	95	SW	1	0.4	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.97	761.2	30.01	762.2	67	19.4	87	S	4	1.8	.....	.....	8ks	.....	Calm	0	0	Cloudy.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.64	752.8	29.82	757.4	70.9	21.6	79	SW	.....	.....	1	10cs	0	W	.....	0	0	Overcast....	James Smith, M. A
Dalhousie, N. B	29.81	757.2	29.97	761.2	60.3	15.7	100	E	.....	.....	4	.....	.....	.....	.....	0.13	3.3	Raining	H. A. Johnson.
Esquimault, B. C	29.90	759.4	29.94	760 5	64.0	17.8	100	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.90	759.4	29.92	760.0	63	11.7	97	NW	1	0.4	.....	.....	Fog	.....	.....	0.04	1.0	Foggy	J. McWilliams.
Fredericton, N. B	29.94	760.5	30.00	762.0	63.6	17.6	91	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.03	737.3	29.82	757.4	63	17.2	97	N	3	1.3	.....	0	0	.....	.....	0.030	0.76	Clear.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.78	731.0	29.83	757.7	67	19.4	95	E	.....	.....	1	0	0	.....	.....	0.29	7.4	Clear.....	James Grant.
*Halifax, N. S	29.87	758.7	30.00	762.0	64	17.8	98	SE	5	2.2	.....	.....	Fog	.....	.....	0.020	0.51	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.54	750.3	29.89	759.2	69.7	20.9	77	W	.....	.....	1	0	9ks	.....	.....	0.01	0.3	Cloudy.....	Geo. Dickson, M. A.
Heart's Content, N. F	30.02	762.5	30.05	763.3	65	18.3	84	Calm	.....	.....	0	1k	2ks	.....	.....	0	0	Fine.....	E. Weedon.
*Kingston, Ontario	29.54	750.3	29.86	758.4	72	22.2	80	SW	2	0.9	.....	2c	0	Calm	.....	0	0	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	30.02	762.5	30.06	763.5	66.0	18.9	.....	S	6	2.7	.....	.....	10n	.....	.....	0	0	Overcast....	C. H. Rigby.
*Montreal, Quebec	29.65	753.1	29.84	757.9	69	20.6	77	NE	6	2.7	.....	.....	10ks	.....	W	Inap.	Inap.	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.18	741.2	29.85	758.2	65	18.3	99	S	4	1.8	.....	2cs	2s	W	W	0	0	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.15	740.4	29.87	758.7	65.7	18.7	89	Calm	.....	.....	0	8k	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.19	741.4	29.85	758.2	70	21.1	85	N	1	0.4	.....	8ck	0	W	.....	0	0	Fair.....	H. Morgan.
Port Hastings, N. S	30.00	762.0	30.05	763.3	60.5	15.8	.....	SW	1	0.4	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.22	742.2	29.83	757.7	71	21.7	89	E	4	1.8	.....	.....	8ks	.....	SW	Inap.	Inap.	Cloudy	M. Payne.
*Quebec, Quebec	29.59	751.6	29.90	759.4	61	16.1	100	E	.....	.....	1	.....	10n	.....	E	0.08	2.0	Cloudy.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.40	746.7	29.85	758.2	63	17.2	89	E	2	0.9	.....	.....	Fog	.....	SE	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.93	760.2	29.98	761.5	58	14.4	96	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.84	757.9	30.00	762.0	61	16.1	94	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy.....	G. Murdock, C. E.
*Saugeen, Ontario	29.16	740.7	29.85	758.2	68	20.0	74	SE	5	2.2	.....	5ck	0	.....	.....	0	0	Fair.....	K. Stewart.
Stayner, Ontario	29.10	739.1	29.85	758.2	67	19.4	84	NE	1	0.4	.....	5ck	0	W	.....	Inap.	Inap.	Cloudy.....	R. J. Cole.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.953†	75.01†	.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.04	763.0	30.07	763.8	64	17.8	94	SW	4	1.8	.....	.....	10n	.....	.....	0.01	0.3	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.50	749.3	29.87	758.7	69	20.6	79	N	3	1.3	.....	2k	5ks	W	W	3.49	88.6	Cloudy.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	94	SW	.....	.....	.....	5k	5s	.....	.....	0.01	0.3	Cloudy.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m. †Amount of rain-fall from July 23d to August 5th.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.69	754.1	29.91	759.7	71	21.7	75	S	6	2.7	.....	1c	0	W	.....	0.02	0.5	Clear.	
Alpena, Michigan	29.20	741.7	29.81	757.2	68	20.0	74	Calm	0	0	.....	5cs	Haze	W	.....	0	0	Fair	
Atlantic City, New Jersey	29.91	759.7	29.93	760.2	75	23.9	95	SE	5	2.2	.....	8k	0	S	.....	0	0	Fair	
Augusta, Georgia	29.73	755.1	29.91	759.7	80	26.7	78	SE	2	0.9	.....	2c	5ks	W	W	0	0	Fair	
Baltimore, Maryland	29.86	758.4	29.90	759.4	77	25.0	86	SE	5	2.2	.....	5c	2s	Calm	SE	0	0	Fair	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	74	23.3	95	S	2	0.9	.....	.....	Fog	.....	S	0	0	Foggy	
Bismarck, Dakota	28.13	714.5	29.98	761.5	68	20.0	79	N	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
BoiseCity, Idaho	27.02	686.3	29.90	759.4	67	19.4	49	S	1	0.4	.....	2k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.82	757.4	29.97	761.2	70	21.1	80	S	4	1.8	.....	4cs	Sm'e	SW	Calm	0.36	9.1	Fair	
Brackettville, Texas	28.73	729.7	29.71	754.6	78	25.6	74	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.80	731.5	29.75	755.6	65	18.3	94	NW	12	5.4	.....	1k	0	NW	.....	0.06	1.5	Clear	
Brownsville, Texas	29.82	757.4	29.89	759.2	84	28.9	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.17	740.9	29.83	757.7	72	22.2	67	S	1	0.4	.....	2ck	Sm'e	Calm	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	91	32.8	51	Calm	.....	.....	0	5c	0	Calm	.....	0	0	Fair	
Burlington, Vermont	29.63	752.6	29.88	758.9	71	21.7	71	S	8	3.6	.....	5c	0	W	.....	0.02	0.5	Fair	
Cairo, Illinois	29.54	750.3	29.91	759.7	78	25.6	78	Calm	0	0	.....	0	0	.....	.....	0.09	2.3	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	70	21.1	61	NE	.....	.....	1	2c	2s	E	Calm	0	0	Fair	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	73	22.8	55	E	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.74	679.2	30.22	767.6	78	25.6	57	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.38	695.4	29.95	760.7	53	11.7	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.92	760.0	29.93	760.2	79	26.1	91	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Henry, Virginia	29.91	759.7	29.94	760.5	78	25.6	82	SW	3	1.3	.....	5cs	0	SW	.....	0	0	Fair	
Cape Lookout, N. Carolina	29.91	759.7	29.93	760.2	78	25.6	82	SW	9	4.0	.....	.....	10n	.....	SW	Inap	Inap.	Light rain	
Cape May, New Jersey	29.90	759.4	29.93	760.2	74	23.3	95	SE	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Castroville, Texas	29.12	739.6	29.78	756.4	80	26.7	87	Calm	0	0	.....	0	5ks	.....	SE	0.15	3.8	Fair	
Charleston, South Carolina	29.88	758.9	29.94	760.5	80	26.7	87	SW	2	0.9	.....	.....	10s	.....	SW	0.29	7.4	Cloudy	
Cheyenne, Wyoming	24.15	613.4	30.09	764.3	62	16.7	77	SW	4	1.8	.....	0	0	.....	.....	0.97	24.6	Clear	
Chicago, Illinois	29.13	739.9	29.78	756.4	72	22.2	80	SW	4	1.8	.....	0	Sm'e	.....	.....	0.04	1.0	Clear	
Cincinnati, Ohio	29.20	741.7	29.81	757.2	76	24.4	82	SE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Cleveland, Ohio	29.15	740.4	29.83	757.7	72	22.2	71	SE	5	2.2	.....	1ck	0	Calm	.....	0	0	Clear	
Columbus, Ohio	29.02	737.1	29.81	757.2	74	23.3	81	SW	1	0.4	.....	2ck	Haze	S	Calm	0	0	Fair	
Concho, Texas	28.62	711.7	29.64	752.8	70	21.1	90	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.45	748.0	29.90	759.4	75	23.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.24	742.7	29.81	757.9	72	22.2	80	N	1	0.4	.....	4ck	0	W	.....	0.09	2.3	Fair	
Denison, Texas	29.14	740.1	29.90	759.4	80	26.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	65	18.3	73	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Des Moines, Iowa	29.04	737.6	29.86	758.4	75	23.9	68	Calm	.....	.....	0	0	Haze	.....	Calm	6	0	Hazy	
Detroit, Michigan	29.16	740.7	29.79	756.7	71	21.7	85	Calm	0	0	.....	5cs	0	W	.....	0.01	0.3	Fair	
Dodge City, Kansas	27.39	695.7	29.56	750.8	74	23.3	81	Calm	0	0	.....	.....	8s	.....	N	0	0	Cloudy	
Dubuque, Iowa	29.15	740.4	29.81	757.2	72	22.2	85	N	4	1.8	.....	5c	Fog	N	Calm	0	0	Fair	
Duluth, Minnesota	29.10	739.1	29.74	755.4	70	21.1	85	NW	1	0.4	.....	2k	0	NW	.....	0.19	4.8	Fair	
Eagle Pass, Texas	29.05	737.9	29.75	755.6	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.91	759.7	29.98	761.5	56	13.3	100	E	7	3.1	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	48	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.14	740.1	29.81	757.2	74	23.3	72	S	5	2.2	.....	2ck	0	.....	.....	0	0	Fair	
Escanaba, Michigan	29.16	740.7	29.77	756.1	73	22.8	72	S	6	2.7	.....	8c	0	S	.....	0	0	Cloudy	
Florence, Arizona	.....	.....	.....	.....	80	26.7	62	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.52	648.2	29.59	751.6	68	20.0	51	NE	4	1.8	.....	5c	0	NE	.....	0	0	Fair	
Fort Davis, Texas	25.22	640.6	30.18	766.6	69	20.6	64	NE	3	1.3	.....	2c	0	NW	.....	Inap.	Inap.	Fair	
Fort Gibson, Indian Ter	29.38	746.2	29.88	758.9	78	25.6	86	E	1	0.4	.....	5c	0	E	.....	0	0	Fair	
Fort Griffin, Texas	28.66	728.0	29.86	758.4	75	23.9	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.75	730.2	29.81	757.2	71	21.7	90	N	7	3.1	.....	2c	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.85	758.2	29.89	759.2	76	24.4	86	NW	20	8.9	.....	.....	10n	.....	NW	0.57	14.5	Light rain	
Grand Haven, Michigan	29.20	741.7	29.80	756.9	75	23.9	77	S	2	0.9	.....	5k	Fog	W	Calm	0	0	Fair	
Indianapolis, Indiana	29.08	738.6	29.81	757.2	76	24.4	73	S	4	1.8	.....	5cs;ck	0	W	.....	0.08	2.0	Fair	
Indianola, Texas	29.88	758.9	29.91	759.7	81	27.2	87	NW	8	3.6	.....	1cs	8ks	Calm	W	0	0	Cloudy	
Jacksboro, Texas	28.81	731.8	29.88	758.9	78	25.6	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.92	760.0	29.94	760.5	78	25.6	86	SW	4	1.8	.....	.....	10s	.....	SW	0 24	6.1	Threatening	
Keokuk, Iowa	29.21	741.9	29.79	756.7	75	23.9	68	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.97	761.2	30.00	762.0	85	29.4	72	S	7	3.1	.....	1c;k	1ks	Calm;S	Calm	0	0	Fair	
Kittyhawk, North Carolina	29.90	759.4	29.93	760.2	77	25.0	91	SE	5	2.2	.....	8k	0	SW	.....	0	0	Clear	
Knoxville, Tennessee	28.92	734.6	29.87	758.7	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Fair	
La Crosse, Wisconsin	29.08	738.6	29.78	756.4	72	22.2	71	S	8	3.6	.....	8ck	0	NW	.....	0	0	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	65	18.3	68	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.43	747.5	29.75	755.6	82	27.8	75	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.91	632.7	30.18	766.6	57	13.9	75	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.08	738.6	29.88	758.9	74	23.3	90	N	6	2.7	.....	.....	10ks	.....	W	0.01	0.3	Cloudy	
Los Angeles, California	29.53	750.0	29.86	758.4	59	15.0	82	Calm	0	0	.....	0	5s	.....	NE	0	0	Fair	
Louisville, Kentucky	29.31	744.5	29.83	757.7	77	25.0	77	N	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.28	743.7	29.93	760.2	76	24.4	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.09	738.9	29.75	755.6	68	20.0	65	NW	4	1.8	.....	10cs	0	W	.....	0	0	Cloudy	
Mason, Texas	28.30	718.8	29.98	761.5	73	22.8	90	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Memphis, Tennessee	29.62	752.3	29.92	760.0	77	25.0	76	N	1	0.4	.....	0	Sm'e	.....	Calm	0.02	0.5	Clear	
Milwaukee, Wisconsin	29.12	739.6	29.80	756.9	72	22.2	80	W	6	2.7	.....	5c	0	SW	.....	Inap.	Inap.	Fair	
Mobile, Alabama	29.86	758.4	29.90	759.4	76.5	24.7	91	SE	5	2.2	.....	1ck	8s	Calm	E	1.45	36.8	Cloudy	
Montgomery, Alabama	29.67	753.6	29.90	759.4	77	25.0	86	Calm	0	0	.....	.....	10s	.....	E	0.04	1.0	Threatening	
Morgantown, West Virginia	28.84	732.5	29.84	757.9	72	22.2	76	Calm	0	0	.....	8c	0	W	.....	0	0	Fair	
Mt. Washington, N. H.	23.87	606.3	30.23	767.8	52	11.1	86	SW	5	2.2	.....	2c	2s	Calm	SW	0	0	Clear	
Nashville, Tennessee	29.38	746.2	29.88	758.9	80	26.7	74	W	3	1.3	.....	0	5s	.....	Calm	0	0	Fair	
New Haven, Connecticut	29.86	758.4	29.97	761.2	74	23.3	81	Calm	0	0	.....	8k	Haze	S	Calm	Inap.	Inap.	Cloudy	
New London, Connecticut	29.94	760.5	29.98	761.5	70	21.1	90	NE	4	1.8	.....	.....	10s;fg	.....	S	6	0	Cloudy	
New Orleans, Louisiana	29.84	757.9	29.90	759.4	77	25.0	86	W	5	2.2	.....	2ck	5ks	W	NW	0.10	2.5	Fair	
Newport, Rhode Island	29.93	760.2	29.98	761.5	70	21.1	95	SW	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	
New York, New York	29.79	756.7	29.96	761.0	72	22.2	90	Calm	0	0	.....	.....	10s;hz	.....	Calm	0.13	3.3	Cloudy	
Norfolk, Virginia	29.87	758.7	29.92	760.0	83	28.3	79	S	3	1.3	.....	5c	Haze	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.07	687.6	29.52	749.8	69	20.6	75	SE	12	5.4	.....	5ck	0	NW	.....	Inap.	Inap.	Fair	
Olympia, Washington Ter.	29.77	756.1	29.80	756.9	55	12.8	96	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.79	731.3	29.80	756.9	76	24.4	77	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.58	751.3	29.88	758.9	72	22.2	80	S	4	1.8	.....	8c	0	SW	.....	0	0	Fair	
Pembina, Dakota	29.03	737.3	29.83	757.7	59	15.0	94	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.88	758.9	29.93	760.2	73	22.8	95	E	5	2.2	.....	.....	10s;fg	.....	E;Calm	0.01	0.3	Cloudy	
Phœnix, Arizona	28.70	729.0	.....	.....	86	30.0	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	37	2.8	63	Calm	0	0	.....	2k	0	Calm	.....	0.50	12.7	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	68	20.0	22	S	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.06	738.1	29.83	757.7	70	21.1	85	Calm	0	0	.....	5k	Fog	SW	Calm	0	0	Fair	
Port Huron, Michigan	29.17	740.9	29.79	756.7	74	23.3	76	Calm	0	0	.....	0	Sm'e	.....	.....	0.10	2.5	Clear	
Portland, Maine	29.91	759.7	29.96	761.0	62	16.7	88	E	2	0.9	.....	.....	Fog	.....	.....	0	0	Dense fog	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Portland, Oregon	29.85	758.2	29.95	760.7	60	15.6	77	SE	7	3.1	.....	.....	10ks	.....	SW	0	0	Cloudy	
Prescott, Arizona	24.76	628.9	30.12	765.0	65	18.3	49	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.98	761.5	30.00	762.0	81	27.2	87	E	4	1.8	.....	5k	5n	E	E	0.58	14.7	Light rain	
Red Bluff, California	29.57	751.1	29.92	760.0	67	19.4	60	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.27	743.4	29.85	758.2	72	22.2	71	W	4	1.8	.....	1c	3ks;s	SW	NW	0	0	Fair	
Roseburg, Oregon	29.42	747.3	29.98	761.5	56.5	13.6	84	E	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Sacramento, California	29.84	757.9	29.92	760.0	68	14.4	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.31	744.5	29.85	758.2	73	22.8	81	SW	6	2.7	.....	0	0	.....	.....	0.42	10.7	Clear	
St. Marks, Florida	29.92	760.0	29.93	760.2	76	24.4	95	S	4	1.8	.....	2k	8s	SW	SW	0.87	22.1	Cloudy	
St. Paul, Minnesota	28.94	735.1	29.73	755.1	68	20.0	79	SW	6	2.7	.....	5k	0	W	.....	0.21	5.3	Fair	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	75	23.9	44	SE	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
San Antonio, Texas	29.20	741.7	29.76	755.9	77	25.0	95	NE	1	0.4	.....	5ck	0	NE	.....	0.08	2.0	Fair	
San Diego, California	29.83	757.7	29.90	759.4	65	18.3	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.21	741.9	29.84	757.9	76	24.4	77	SW	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
Sandy Hook, New Jersey	29.92	760.0	29.95	760.7	72	22.2	95	E	3	1.3	.....	.....	10s	.....	E	0.69	2.3	Cloudy	
San Francisco, California	29.93	760.2	29.99	761.7	55	12.8	90	W	2	0.9	.....	0	Fog	.....	Calm	0	0	Fair	
Santa Fé, New Mexico	23.42	594.9	29.96	761.0	64	17.8	48	N	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Savannah, Georgia	29.84	757.9	29.93	760.2	82	27.8	83	SW	4	1.8	.....	.....	10s	.....	W	0.14	3.6	Cloudy	
Shreveport, Louisiana	29.69	754.1	29.90	759.4	79	26.1	86	Calm	0	0	.....	-0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.34	618.2	.....	.....	63	17.2	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.92	760.0	29.95	760.7	77	25.0	82	S	2	0.9	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Springfield, Massachusetts	29.80	756.9	29.92	760.0	65	18.3	89	Calm	0	0	.....	.....	Fog	.....	Calm	0.13	3.3	Foggy	
Stockton, Texas	26.90	683.2	29.90	759.4	72	22.2	37	SE	4	1.8	.....	1k	0	SE	.....	0	0	Clear	
Thatcher's Island, Mass.	29.92	760.0	29.97	761.2	64	17.8	89	SW	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Toledo, Ohio	29.16	740.7	29.79	756.7	76	24.4	77	S	8	3.6	.....	2ck	0	Calm	.....	Inap	Inap.	Fair	
Tucson, Arizona	27.28	692.9	29.83	757.7	85	29.4	61	Calm	0	0	.....	0	0	.....	.....	1.06	26.9	Clear	
Tybee Island, Georgia	29.90	759.4	29.93	760.2	79	26.1	87	W	4	1.8	.....	.....	10ks	.....	W	1.10	27.9	Cloudy	
Umatilla, Oregon	29.47	748.5	.....	.....	68	20.0	60	N	4	1.8	.....	0	2s	.....	W	0	0	Fair	
Vicksburg, Mississippi	29.68	753.9	29.93	760.2	79	26.1	82	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.34	618.2	29.82	757.4	61	16.1	55	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Visalia, California	29.56	750.8	29.92	760.0	67	19.4	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.80	756.9	29.91	759.7	75	23.9	86	NE	4	1.8	.....	3cs;ck	2s;fg	Calm	Calm	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	73	22.8	50	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.86	758.4	29.94	760.5	76	24.4	90	SW	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Winnemucca, Nevada	25.60	650.2	29.96	761.0	67	19.4	25	SW	10	4.5	.....	2k	0	SW	.....	0	0	Fair	
Wood's Holl, Mass.	29.93	760.2	29.98	761.5	73	22.8	90	W	3	1.3	.....	Fog	Fog	Calm	Calm	0	0	Foggy	
Yankton, Dakota	28.66	728.0	29.90	759.4	65	18.3	84	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.63	752.6	29.79	756.7	83	28.3	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.88	758.9	29.93	760.2	56.5	13.6	94	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.96	761.0	29.98	761.5	82	27.8	74	SE	3.6	1.6	.....	4c	0	NE	.....	0.04	1.0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	2	0.9	.....	2c	2s	E	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	81	27.2	87	Calm	0	0	.....	8c	8n	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.92	760.0	30.00	762 0	84	28.9	.....	NE	7.5	3.4	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.03	762.7	30.03	762.7	80	26.7	87	SE	.....	.....	3	3c	5k	E	.....	0.160	4.06	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.23	640.8	.....	.....	67.5	19.7	78	Calm	0	0	.....	1ck	1ks	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,627.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,156.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,56? (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,882.2 (?) ft., or 2,081.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48? in.; Campo, 2.67 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.04	763.0	77	25.0	77	25.0	95	SW	17	7.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	Threatening	
Navy Yard, Portsmouth, N.H	29.95‡	760.7‡	.....	.....	71	21.7	75	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	.....	Clear.	
Naval Hospital, Yokohama, Japan	29.87*	758.7*	78.2	25.7	77.9	25.5	91	Calm	.....	.....	0	.....	10s	.....	SW	0	0	.....	.....	Gloomy.....	
Adams. Pago-Pago	30.07	763.8	82	27.8	81	27.2	96	ESE	.....	.....	2	.....	5	.....	S&E	.....	.....	.....	.....	Pleasant.....	
Alliance, Havre, France	29.82‡	757.4‡	.....	.....	75	23.9	53	SE	.....	.....	0-1	.....	8	.....	SE	.....	.....	.....	.....	Cloudy.....	
Ashuelot. Nagasaki, Japan	30.05	763.3	83	28.3	81	27.2	100	SW	.....	.....	3	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Canonicus, New Orleans, La	29.93	760.2	55	12 8	78	25.6	91	WSW	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Colorado. New York, N. Y	29.90‡	759.4‡	.....	.....	73	22.8	85	SSW	5	2.2	....	.....	10	.....	S	0.09	2.3	.....	.....	Light fog....	
Constitution, Havre, France	29.81‡	757.2‡	.....	.....	70	21.1	95	E	.....	.....	1	.....	6	.....	ESE	.....	.....	.....	.....	Cloudy.....	
Despatch, Volo, Turkey	29.77‡	756.1‡	.....	.....	84	28.9	88	SSE	.....	.....	2	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va	30.04	763.0	81	27.2	80	26.7	91	SSE	6	2.7	.....	.....	8	.....	SE	0	0	.....	.....	Fair.....	
Gettysburg Villefranche, France	29.91‡	759.7‡	.....	.....	79	26.1	91	E	.....	.....	1	.....	2	.....	Calm	0	0	Light	S	Clear	
Hartford, Rio de Janeiro, Brazil	30.39	771.9	.....	.....	72	22.2	67	NNW	4.8	2.1	.....	.....	8	.....	NE	0	0	.....	.....	Fair	
Marion, Villefranche, France	30.00	762.0	76	24.4	75	23.9	77	ESE	.....	.....	1	.....	2	.....	Calm	0	0	Smooth	.....	Fair	
Michigan. Lake Superior	29.26	743.2	68	20.0	66	18.9	74	SSE	.....	.....	3	.....	10	.....	ESE	.....	.....	.....	.....	Cloudy.....	
Monocacy. Yokohama, Japan	29.88‡	758.9‡	.....	.....	79	26.1	86	SW	.....	.....	1	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C	30.12†	765.0†	.....	.....	78	25.6	86	W	6	2.7	.....	.....	8	.....	W	0.22	5.6	.....	.....	Cloudy.	
Onward, Callao, Peru	30.08†	764.0†	.....	.....	61.5	16.4	82	N	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.82	757.4	82	27.8	76	24.4	91	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Pensacola, Mare Island, California	30.04	763.0	64	17.8	59	15.0	88	SSW	9	4.0	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y	29.94‡	760.5‡	.....	.....	75	23.9	90	SSW	.....	.....	0-1	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	29.96	761.0	81.5	27.5	81	27.2	91	E	.....	.....	3	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Rio Bravo. Brownsville, Texas	29.86	758.4	81	27.2	81	27.2	87	ESE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md	29.90‡	759.4‡	.....	.....	79	26.1	91	SE	.....	.....	1	.....	10	.....	SE	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.89	759.2	77	25.0	73	22.8	95	ESE	9	4.0	.....	.....	10	....	ESE	0.04	1.0	.....	.....	Misty.....	
Supply, Havre, France	29.90	759.7	73	22.8	76	24.4	60	SE	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass	29.93‡	760.2‡	.....	.....	68	20.0	90	SW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Trenton, Cherbourg, France	29.81‡	757.2‡	.....	.....	73	22.8	76	ENE	.....	.....	2	.....	9	.....	E	0.5	13.	.....	.....	Overcast.....	
Tuscarora, N. 16° 20', W. 98° 36'	29.69	754 1	79	26.1	79	26.1	78	NNE	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Vandalia, Naples, Italy	29.90‡	759 4‡	.....	.....	80	26.7	74	W	.....	.....	2	.....	2	.....	WSW	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass	29.93‡	760.2‡	.....	.....	66	18.9	94	SW	2	0.9	.....	.....	5	.....	Calm	0.37	9.4	.....	.....	Fair	
Wyoming, N. 42° 10', W. 63° 56'	29.96†	761.0†	.....	.....	68	20.0	95	SE	.....	.....	1	.....	7	.....	.....	.....	.....	Smooth	.....	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 32′, E. 153° 34′		29.81*	757.2*	60	15.6	??	ENE			1		10		E	18hours	Heavy	E	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 35° 08′, E. 157° 04′		29.70†	754.4†	78	25.6	95	SSW	41	18.3			5		SSW	0	Mod'ate	SSW	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Tacoma, W. T.		29.87†	758.7†	58	14.4	94	Var.			1		10		Var.	Heavy			D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 34° 10′ W. 131° 20′		30.50‡	774.7‡	69	20.6	95	NW			3		8		NW	0	Smooth	NW	Fine	Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 46° 28′, W. 48° 48′		29.94*	760.5*	58	14.4	64	NW			2		Fog		NW	6 hours	None		Foggy	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 39° 48′, W. 141° 06′		29.95*	760.7*	64.5	18.1	75	W			6		ks		W		Rough	W	Showery	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, Hong-Kong, China?		29.88	758.9	79	26.1	91	NE			3		4		SE		Smooth		Showery	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 49° 29′, W. 14° 10′		29.68	753.9	65	18.3	89	ENE			3		9		N	3 hours	2	NNE	Rainy	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 41° 45′, W. 52° 53′		30.17*	766.3*	71	21.7	90	SE			2		2		NNE	Light	Light	SW	Clear	Captain Sargent.
S. S. Ohio, N. 50° 6′ 42″, W. 40° 5′		30.15	765.8	67	19.4	89	ESE			3		10		SW	0	Small	N	Overcast	Captain Morrison.
S. S. Pennsylvania																			Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		30.41*	772.4*	50.0	10.0	80	SSE			1		10s						Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 6, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			
Nemours			30.01	762.2	84.2	29.0	62	NNW			3		0					Clear	Dr. Ollive.
Algiers			29.90	759.5	87.1	30.6	47	W			6		3			0	0	Clear	Kesxuche.
La Calle			29.92	760.0	87.1	30.6	69	NNE			1		4			Inap.	Inap.	Pretty fair	Touriliere.
Tunis			29.97	761.3												0.012	0.3	Cloudy	Foufrede.
Sfax			30.07	763.7	87.8	31.0		E			2		1						Jacques.
Saida			30.02	762.4	88.7	31.5	22	N			3		1			0	0	Very fair	Gau.
Tebessa			30.00	762.1	94.6	34 8		W			5		5			0	0	Very fair	Herbin.
Geriville			30.06	763.5	95.0	35.0	27	E			8		5			Inap.	Inap.	Cloudy	Watrin.
Laghouat			30.03	762.7	91.8	33 2	27	E			1		1			0.039	1.0	Cloudy	Brugniaux.
Biskra			29 98	761.4	96 3	35.7	32	E			1		3			0.322	8.2	Very fair	Bertrand.
																0	0	Pretty fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram																			
Cracow	29.41	747.0	29.93	760.3	79.3	26.3	67	SE			2		4			0	0		Prof. Ivan Stozi.
Eperies	29.20	741.6	29.91	759.8	79.5	26.4	47	NNE			2		1			0	0		Prof. Dr. Karlinski.
Gratz	29.08	738.7	29.91	759.8	79.3	26 3	57	N			1		3cs;s						Julius Mikolik.
Hermannstadt	28.72	729.6	29.93	760.1	73.9	23.3	76	NE			3		3			0.083	2.10		Andreas Rospini.
Kremsmünster	28.54	724.8	29.88	758.9	78.4	25.8	44	ESE			3		2			0	0		Prof. Reissenberg
Lemberg	28.55	725.2	29.83	757.6	74.8	23.8	60	ENE			2		2			0	0		Prof. C. Wagner
Pola	28.98	736.0	29.92	760.0	74.3	23.5	81	NE			1		5			0	0		Dr. T. Stanecki.
Szathmar	29.85	758.2	29.96	760.9	79.9	26.6	74	WNW			2		1k			0	0		I.R.Hydrographic Office
Szegedin	29.49	749.0	29.93	760.1	82.4	28.0	43	SE			0		4			0	0		Johann Tamas, S. J.
Trieste																			Karl Stancel.
Vienna	29.88	758.9	29.98	761.5	77.9	25.5	72	NNW			1		1						P. Busin.
	29.24	742.6	29.92	760.0	78.6	25.9	56	ESE			1		2			0	0	Clear	I. R. Central Met. Obs'y.
																0	0		

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon																			
Brussels	28.40	721.3	29.83	757.6	77.2	25.1	55	S			1		8			1.835	46.6		Prof. M. Passau.
Furnes	29.57	751.1	29.76	755.9	77.5	25.3	57	SW			4		10		S	0	0		Royal Observatory
Maeseyck	29.76	756.0	29.79	756.6	73.8	23.2	75	NW			2		7			0.937	23.7		M. E. de Cae.
	29.69	754.2	29.82	757.4	81.7	27.6	68	SSE			2		7			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

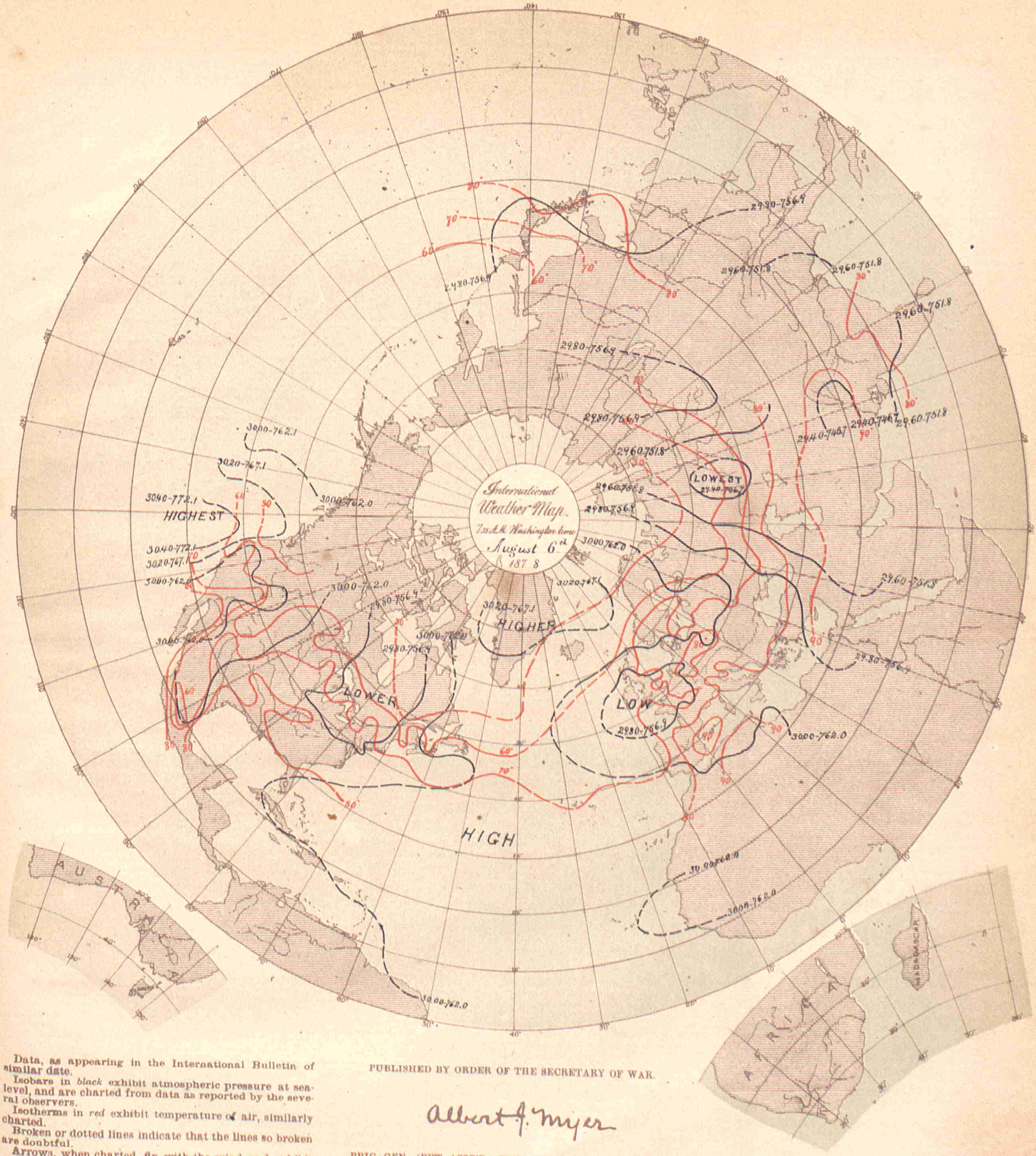
Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.77	756.1	29.87	758.7	59.7	15.4	.....	NE	7	3.1	.....	.....	10	.....	.....	0.020	0.51	Foggy	W. Boswell.
Ardrossan	29.71	754.6	29.73	755.1	68	20.0	.....	ENE	.....	.....	2	.....	8	.....	.....	.....	.....	Raining.....	George Carrick.
Armagh, Observatory	.....	.....	29.72	754.9	66.5	19.2	.....	E	10	4.5	.....	.....	5	.....	.....	.....	.....	D. clouds.....	S. Cain.
Bidston, (Liverpool Obs.)	.....	.....	29.70	754.4	63 6	17.6	.....	ESE	14	6.3	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.46	748.3	29.65	753.1	70.0	21.1	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.35	745.5	29.74	755.4	64.6	17.8	.....	NE	.....	.....	2	.....	10	.....	.....	0.01	0.3	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	83	28.3	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A. H. C.
Cambridge, Observatory	.....	.....	29.68	753.9	75.0	23.9	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd.
Cardington	.....	.....	29.70	754.4	73.4	23.0	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.58	751.3	29.70	754.4	76.2	24.6	.....	S	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky.....	Q.M. Sergt. Magawran, R. E., for Alexander Watt.
Dartmoor	28.38	720 8	29.82	757.4	61.0	16.1	.....	S	.....	.....	4	.....	9	.....	.....	.....	.....	Rain and fog	[Col. Martin, R. E.
Donaghadee	29.79	756.7	29.82	757.4	60	15.6	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.72	754.9	29.75	755.6	69	20.6	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	¾ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.70	754.4	63.7	17.6	.....	NE	.....	.....	.....	.....	10	.....	.....	.....	.....	Raining.....	Thomas Mackereth.
Falmouth, Observatory	29.45	748.0	29.67	753.6	67.6	19.8	.....	WNW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.57	700.3	29.84	757.9	70.0	21.1	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky...	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.82	757.4	30.06	763.5	76.0	24.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Raining	
Galway, Queen's College	.....	.....	29.62	752.3	69	20.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.94	760.5	29.99	761.7	80.0	26.7	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.56	750.8	29.76	755.9	65.9	18.8	.....	NNE	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.74	755.4	29.75	755.6	68	20.0	.....	SE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.54	750.3	29.70	754.4	76.3	24.6	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.59	749.3	29.71	754.6	65.5	18.6	.....	SSE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.72	754.9	71	21.7	.....	SW	.....	.....	2	.....	1c	.....	.....	0.4	10.	Fine.....	M. P. Moyle.
Holyhead	29.64	752.8	29.68	753.9	67	19.4	.....	NW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.48	748.8	29.77	756.1	64.5	18.1	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	29.71	754.6	74.5	23.6	.....	S	16	7.2	.....	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	29.67	753.6	29.70	754.4	65	18.3	.....	ESE	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	George Mitchell.
Leicester, Museum	.....	.....	29.67	753.6	71.0	21.7	.....	S	.....	.....	1	.....	8	.....	.....	.....	.....	Raining.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.88	758.9	29.95	760.7	81	27.2	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.75	755.6	29.84	757.9	65	18.3	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Covered...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	84.5	29.2	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.50	749.3	29.68	753.9	65.1	18.4	.....	S	.....	.....	1	.....	10n;ks	.....	.....	SE; SSE	2.516	63.90	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.17	740.9	29.67	753 6	67.2	19.6	.....	SE	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.69	754.1	70	21.1	.....	SSE	.....	.....	1	.....	9	.....	.....	Blank	Blank	Overcast.....	H. E. Bellamy.
Plymouth	29.58	751.3	29.66	753.4	66.0	18.9	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield
Roche's Point	29.63	752.6	29.67	753.6	69	20.6	.....	SSE	.....	.....	3	.....	8	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	29.49	749.0	29.65	753.1	69	20.6	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Sandwick Manse, (Orkneys.	.....	.....	29.93	760.2	65.6	18.7	.....	E	19	8.5	.....	.....	7	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.82	757.4	81.4	27.4	.....	N	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. F. Cooper.
Silloth Rectory	29.70	754.4	29.73	755.1	69.5	20.8	74	SE	.....	.....	1	.....	7	.....	.....	0.150	3.81	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.31	745.2	29.74	755.4	63.2	17.3	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	29.76	755.9	29.79	756.7	65	18.3	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S.
Thurso	.....	.....	29.89	759.2	66	18.9	.....	ESE	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy.....	John Trotter.
Truro, Royal Institution	.....	.....	29.71	754.6	70	21.1	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.65	753.1	66.1	18.9	.....	SSW	14	6.3	.....	.....	8	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.74	755.4	50.0	10.0	93	NW	.....	.....	1	.....	10k	.....	.....	0.6	15.	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.89	759.2	30.08	764.2	72.2	22.3	71	E	19.5	8.7	.....	1	3	.....	E	0.20	5.1	Squally.....	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	49.1	9.5	78	N	25	11.2	.....	.....	10	.....	.....	0	0	Squally.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudinss for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 47° 50′ W. 35° 10′	.....	.....	30.08	764.0	65	18.3	S	.....	.....	2	.....	6	.....	.....	Smooth	.....	D. clouds.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 61° 12′, W. 48° 10′	.....	.....	30.14	765.5	45	7.2	WSW	.....	.....	3	.....	7	.....	.....	.....	.....	Foggy	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Qualle
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 42° 50′, W. 63° 50′	.....	.....	29.99	761.7	65	18.3	E	.....	.....	2	.....	10	.....	.....	2	.....	Misty.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instru-m'tal error and temperature. Inches.	BAROMETER. Corrected for instru-m'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			
San José	26.25	666.7			66.2	19.0	93	SE			1	6c	2s		NE	Inap.	Inap.		Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.97	761.1	30.01	762.3	70.0	21.1	66	ESE			2		0						
Farõe	29.87	758.8	29.89	759.3	76.5	24.9	68	SE			6		5						
Godthaab, (Greenland)	30.12	765.1	30.17	766.2	43.3	6.3	88	Calm			0		10						
Stykkisholm, (Iceland)	29.98	761.6	30.03	762.7	54.0	12.2	84	NW			2		8						
Thorshavn, (Farõe)	30.00	762.1	30.04	763.0	54.9	12.7	90	NE			2		10						
Vestervig	29.89	756.9	29.97	761.2	75.6	24.2	44	SE			4		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.27	743.4	29.82	757.4	72.7	22.6	71	SW			2		5			0.843	21.40	Cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.81	757.1	29.89	759.1	78.8	26	46	S			2		5			0.059	1.5	Cloudy	M. Giraud, Director.
Bar-sur-Seine	29.27	743.5	29.80	756.9	77.2	25.1	56	S			1		10n		S	0.059	1.5	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.54	750.3	29.81	757.2	77.2	25.1	56	SW			2		8		SW	0.16	4.	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.04	737.6	29.90	759.5	73.0	22.8	70	SW			6		10		SW	0.031	0.8	Covered	Normal School.
Bourg-en-Bresse, N. School	29.01	736.8	29.94	760.4	66.6	19.2	88	N			3		10n		N	0.08	2.	Covered	M. Marlot, Director.
Bourges, Normal School	29.22	742.3	29.74	755.5	80.2	26.8	83	SE			1	2c		SE		0.24	6.	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.45	748.1	29.69	754.2	73.8	23.2	69	SW			2		6		SW	1.083	27.50		The Staff.
Carcassonne, Normal School	29.43	747.4	29.82	757.5	75.9	24.4	87	E			2		5	E		0.04	1.	Partly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.20	741.7	29.73	755.2	75.2	24	93	S			3		8		NE	0.28	7.		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.51	749.5	29.77	756.2	79.2	26.2	56	S			1		5	S	S	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.56	725.4	29.89	759.1	62.6	17.0	90	NE			1				SW	0.134	3.4		Alluard, Director.
Commercy, Normal School	29.05	737.8	29.89	759.1	75.4	24.1	67	W			3		5ck		W	0	0		Dr. Coulet, Director.
Commune de Gréasque*	28.86	733.1	30.00	762.1	83.8	28.8	35	SE			4		8		SE	0	0	¾ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.63	752.6	29.84	757.8	72.0	22.2	75	SW			1		8		SW	0.606	15.4	Raining	Mouillot, Director.
Le Mans, Normal School	29.50	749.2	29.80	756.8	69.6	20.9	80	SE			3		8		SE	1.250	31.75	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.00	736.7	29.90	759.5	63.5	17.5	86	S			4		10		E	1.118	28.40	Thunder-storm	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					64.4	18	90	W			1		10			0	0	Covered	M. Galzin, Director
Mirecourt, Normal School	28.85	732.7	29.85	758.2	73.8	23.2	71	SSW			3		10kn		NE	0	0	Covered	M. Barbier, Director.
Nismes, Normal School	29.74	755.3	29.97	761.2	75.9	24.4	66	S			4		5		S	0.16	4.	Cloudy	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	28.87	733.2	29.88	759.0	75.9	24.4	65	S			1		n	S	S	0.43	11.		M. Cantier.
Puy de Dome (Summit)	25.08	636.9			51.8	11.0	100	E			2					0.063	1.6		Alluard, Director.
Rochefort, Naval Obs'y	29.84	757.9	29.87	758.7	75.9	24.4	45	SW			4		1		SW	0	0	Clear	M. Giguel, Director.
Rouen, Normal School	29.69	754.2	29.78	756.3	74.8	23.8	58	S			2		8		SW	0.106	2.7	Very cloudy	F. Lucard, Director.
Saint Malo (Port)			29.74	755.4	63.3	17.4	94	SSE			1		10		NNW	0	0	Covered	M. H. Hercouet.
Tarbes, Normal School	29.05	737.8	30.10	764.5	64.4	18	80	W			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.23	742.5	29.94	760.5	59.9	15.5	84	SE			1		8		N	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.3	29.92	760 0	78.8	26													
Lyons																1.81	46.		L'Abbé Marchés.
Marseilles, Observatory			29.98	761.6	63.9	17.7	84						8					Thunder-storm	L. Jays.
Mont-Louis			29.89	759.3	83.3	28.5	41	SE			2		4			Inap.	Inap.		The Staff.
Nice	24.85	631.2	30.17	766.2	68.5	20.3	52	SSW	7.4	3.33			2		S	0.055	1.4		M. Cave.
Paris, Montsouris Obs'y			29.98	761.6	76.6	24.8	83	SE			1		1			0	0		Dr. A. Niepce.
Perpignan	29.53	750.1	29.81	757.1	74.5	23.6	65	SE			2		8		SW	0	0		Marié Davy, Director
Pic du Midi, (Summit,) H. P.			29.83	757.6	81.9	27.7	71	SE	11.2	5.00			7		S	0.220	5.6		Dr. Fines.
Pic du Midi, (Plantade,) H. P.																			M. Baylac.
Saint Maur, (near Paris)	22.54	572.4			52.2	11.2		S			2		7			0	0	Stormy	Gen'l de Nansouty
Toulouse, Observatory	29.65	753.1	29.82	757.3	71.6	22.0	71	S			2		10		SW	0.031	0.8	Covered	E. Renou.
Tours	29.18	741.1	29.90	759.4	75.2	24.0	69	NW			3		8			0	0		The Staff.
Versailles, (near Paris)	29.62	752.3	29.82	757.3	70.2	21.2	85	WNW			1		8		SW	0.087	2.2		C. Marquet.
Zi-Ka-Wei, (near Shanghai)			29.82	757.4	77.4	25.2	47	SW			1		8			0	0	Almost cov'd	Dr. A. Bérigny.
	29.83	757.7	29.86	758.4	80.6	27.0	97	SE	1.3	0.6			0			0	0	Clear	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instru'tal error and temperature. Inches.	Barometer: Corrected for instru'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.01	736.9	29.85	758.2	76.3	24.6	74	S			3		1			0	0		Prof. Dr. Hoh.
Berlin	29.77	756.2	29.93	760.3	79.9	26.6	49	S			1		2			0.035	0.9		Prof. Arndt.
Breslau	29.47	748.5	30.00	762.0	84.2	29.0	37	E			3		3			0	0		Royal University Obs'y
Carlsruhe	29.40	746.7	29.80	756.9	82.9	28.3	56	SE			1		9			1.287	32.7	Thunder-storm.	Albert Senz.
Cassel	29.28	743.6	29.88	758.9	81.7	27.6	45	E			2		5	SW		0	0		Dr. H. Möhl.
Crefeld	29.63	752.5	29.79	756.6	81.5	27.5	59	SE			2		7k			0	0		Director Lose.
Emden	29.68	753.9	29.72	754.9	79.3	26.3	62	SSE			3		1			0	0	Lightning	Prof. Prestel.
Frankfort on the Main	29.52	749.7	29.86	758.4	83.7	28.7		SE			3		5			0	0		Physical Society.
Friedrichshafen	28.46	722.8	29.83	757.7	72.3	22.4	77	SW			3		3	SW		0.239	6.0	Thunder-storm.	M. Wilhelm.
Hamburg	29.85	758.2	29.92	759.9	76.6	24.8	64	ESE			4		5k			0.008	0.2	Dust-haze	Captain F. Hegemann.
Kiel	29.90	759.4	29.91	759.8	75.7	24.3	65	E			4		2			0.012	0.30		Prof. G. Karsten.
Königsberg, (Prussia)	29.99	761.8	30.07	763.8	75.7	24.3	42	E			3		0			0	0		Prof. E. Luther.
Köslin			29.98	761.4	80.6	27.0		S			2		1			0	0		H. Müller.
Leipsic, Observatory	29.54	750.2	29.94	760.4	81.3	27.4	45	SE			1		3	E		0	0		Prof. Bruhns.
Memel, Naval School	30.04	763.0	30.09	764.2	68.5	20.3	46	NW			2		1cs						Reinbrecht and Skalweit.
Neufahrwasser	30.07	763.7	30.08	764.1	69.4	20.8	82	NNE			2		0			0	0		A. Lothes.
Posen	29.76	755.9	30.04	762.9	81.1	27.3	39	SE			2		3			0	0		Dr. Magener.
Strassburg (in Alsace)	29.32	744.8	29.84	758.0	79.7	26.5	57	S			1		10	N				Thunder-storm.	Astronomical Observatory.
Stattgart	28.92	734.5	29.80	756.8	83.7	28.7	42	E					4	E		0.094	2.4		Prof. Schoder.
Treves, (Trier)	29.17	741.0	29.69	754.1	81.7	27.6	49	SW			5		3			0.343	8.71		Prof. Flesch.
Weissenburg, (Bavaria)	28.43	722.0	29.87	758.8	78.1	25.6	47	SSW	3.8	1.7			2ck	W	W	0	0		Dr. Von Bebber.
Wustrow, Naval School	29.88	759.0	29.92	760.0	74.5	23.6	62	ENE			3		3			0	0		E. F. Schütz.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.51	749.6	29.89	759.1	84.6	29.2		NE			3.5		ck					Clear	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee													10		W	0.40	10.2	Overcast	
Deesa	29.07	738.3	29.51	750.2	82.8	28.2	94	Calm					10		W	0.10	2.5	Overcast	
Bombay	29.61	752.0	29.65	753.0	81.4	27.4	91	W	12	5.4			10		WSW	0.19	4.8	Overcast	
Poona	27.62	701.5	29.61	752.1	77.0	25.0	84	WNW					10			0	0	Blue sky	
Lahore	28.68	728.4	29.38	746.3	98.7	37.1	52	E	1.2	0.5			1		W	0.45	11.4	Showery	
Belgaum	27.17	689.8	29.71	754.6	72.6	22.6	94	W	12	5.4			10						
Bangalore																			
Roorkee	28.62	726.8	29.50	749.2	84.0	28.9	79	SW	4.3	1.9			10			0	0	Gloomy	
Agra	28.35	735.9	29.50	749.4	88.7	31.5	71	E					10		E	0	0		
Trichinopoly																			
Nagpur	28.47	723.2	29.50	749.2	83.4	28.6	81	Calm	6.6	3.0			9		SE	0	0	D. clouds	
Madras																			
Lucknow																			
Allahabad	29.17	741.0	29.48	748.8	83.7	28.7	91	Calm	2.1	0.9			10		E	2.33	59.2	Overcast	
Patna	29.31	744.5	29.49	749.1	79.7	26.5	95	NE	1.6	0.7			10	NE	E	0.54	13.7	Raining	
Hazaribagh	27.51	695.7	29.49	748.9	81.0	27.2	85	E	8.9	4.0			10		E	0.15	3.8	Raining	
Cuttack	29.37	746.1	29.46	748.2	81.0	27.2	87	W	1.9	0.8			10			2.91	73.9	Overcast	
Calcutta (Alipore)	29.48	748.6	29.50	749.2	82.9	28.3	91	E	4.0	1.8			6	SE		0.21	5.3	Showery	
Goalpara	29.18	741.2	29.57	748.4	82.9	28.3	89	Calm	4.9	2.2			9			0.08	2.0	D. clouds	
Chittagong	29.49	748.9	29.58	751.2	85.4	29.9	81	SSW	5.4	2.4			7			0	0	Misty	
Sibsagar	29.24	742.8	29.57	751.1	86.8	30.4	81	Calm	2.9	1.3			10	W	W	0.54	13.7	D. clouds	
Rangoon																			
Jubbulpore	28.18	715.7	29.53	750.2	77.8	25.4	93	NW	4.4	2.0			10			0.81	20.6	Raining	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft.. or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.59	751.6	29.98	761.6	80.6	27.0	61	S	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.85	758.2	29.96	760.9	79.2	26.2	69	N	4.9	2.2	.....	.....	8	NE	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.76	755.9	29.95	760.6	83.5	28.6	55	SE	3.1	1.4	.....	.....	4	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.67	728.3	29.94	760.5	81.3	27.4	59	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.43	747.4	29.92	760.0	83.8	28.8	46	NE	.....	.....	2	.....	6	SSE	.....	0.071	1.8	.....	Prof. Schiaparelli.
Moncalieri	29.06	738.1	29.93	760.2	77.4	25.2	67	NNW	2.5	1.1	.....	.....	9	SE	.....	0.642	16.3	.....	Prof. P. F. Denza.
Mondovi	28.12	714.1	29.95	760.8	77.0	25.0	61	N	.....	.....	2	.....	8	SE	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.76	756.0	29.98	761.4	73.9	23.3	77	E	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.81	757.1	29.97	761.3	77.2	25.1	64	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.62	752.4	29.93	760.2	81.5	27.5	56	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.71	754.7	29.96	761.0	84.2	29.0	47	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.85	758.1	29.93	760.2	79.7	26.5	66	W	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.93	760.1	29.97	761.2	79.5	26.4	61	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.48	723.5	29.98	761.6	79.0	26.1	59	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.78	756.5	29.95	760.8	89.1	31.7	39	SW	5.6	2.5	.....	.....	3	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.80	756.8	29.99	761.7	85.1	29.5	44	WSW	.....	.....	4	.....	3	NE	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.71	754.6	29.95	760.8	78.4	25.8	47	NW	16.8	7.5	.....	.....	2	WNW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.74	755.3	29.92	759.9	86.0	30.0	40	SE	.....	.....	2	.....	4	SW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.0	29.94	760.5	85.6	29.8	63	SW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.75	755.6	29.99	761.8	79.5	26.4	69	ENE	4.9	2.2	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.92	759.9	29.99	761.8	81.5	27.5	58	NE	.....	.....	4	.....	1	W	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.45	748.0	30.00	762.1	82.8	28.2	48	WSW	1.8	0.8	.....	.....	1	SW	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.76	755.9	29.96	761 0	79 9	26.6	86	WSW	7.9	3.5	.....	.....	6ks	.....	WSW	0	0	Cloudy	
Tokei (Yeddo) Observatory	29.62	752 3	29.68	753.9	77.3	25.2	94	SSW	3.0	1.3	.....	8ck;cs;c	.....	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) University	29.55	750.6	29.64	753.0	77.6	25.3	96	Calm	0	0	.....	1ck	.....	.....	.....	0	0	Fine	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	.....	.....	.....	.....	63.5	17.5	61	W	1.8	0.8	.....	10ck	0	.....	SE?	0.47	12.0	Covered	Prof. L. Perez.
Guanajuato	25.07	636.6	30.02	762.5	57.6	14.2	90	NE	0.9	0.4	.....	0	9	.....	NW	0.50	12.6	Very cloudy	Prof. V. Fernandez
Leon	23.70	602.1	29.85	758.2	63.5	17.5	82	Calm	0	0	.....	8	0	.....	.....	0.17	4.4	Hazy	Prof. M. Leal.
Mexico	24.40	619.8	29.92	760 0	63.9	17.7	82	SE	0.9	0.4	.....	6c	1k	E	E	Inap.	Inap.	Cloudy	Central Observatory.
Orizaba	23.11	586.9	30.07	753.6	58.8	14.9	85	Calm	0	0	.....	0	8k	.....	.....	0.72	18.0	Cloudy	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, M. E
Puebla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. B. Gonzalez.
Toluca	23.35	593.0	29.99	761.7	55.9	13.3	95	ENE	0.9	0.4	.....	0	10k	.....	S	0.86	21.7	Cloudy	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	29.88	758.8	29.89	759.1	79.7	26.5	84	SW	5.1	2.3	.....	10cs	0	S	.....	0	0	Threatening	G. Barroeta, M. D.
Vera-Cruz	24.25	615.1	30.10	764.5	65.0	18.3	82	ESE	0.9	0.4	.....	0	10	.....	E	0	0	Covered	Prof. J. Rossell.
Zacatecas	29.93	760 2	29.96	760 9	81.5	27.5	84	NW	.....	.....	.....	0	9nk	.....	SW	0.33	8.4	Very cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	.....	.....	.....	.....	59.0	15.0	84	NE	5.1	2.3	.....	6	2	NE	E	0	0	Cloudy	Prof. P. Spina, [M.M.D, D
Morelia	23.21	589.5	29.94	760.5	54.5	12.5	91	NE	0.7	0.3	.....	2	4	S	.....	1.13	28.7	Cloudy	M. Tena, F L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	28.36	720.4	29.98	761.4	79.7	26.5	79	SE	0.9	0.4	.....	0	10	.....	W	0.72	18.2	Covered	Antonio Guerra y Guerra.
.....	29.70	754.3	29.84	758.0	78.8	26.0	.....	Calm	0	0	.....	.....	10k	.....	SW	0	0	Covered	

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,361.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.78	756.3	29.78	756.3	76 3	24.6	.....	S	.....	.....	3	.....	.....	.....	.....	0.079	2.0	.....	
Groningen	29.75	755.7	29.81	757.1	78.3	25 7	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.76	756.0	29.76	756.0	71.2	21.8	.....	ENE	.....	.....	2	.....	.....	.....	.....	0.008	0.2	.....	
Hellevoetsluis	29.68	753.9	29.68	753.9	79.7	26.5	66	SE	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.74	755.3	29.78	756.5	80.4	26.9	49	SSE	.....	.....	4	.....	5	.....	.....	0.079	2.0	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	30.00	762.0	30.06	763.4	73.8	23.2	40	NNW	6.0	2.7	.....	.....	0	.....	.....	0	0	.....	
Brönö	30.10	764.6	30.14	765.6	54.3	12.4	79	NNW	18	8	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.88	758.9	30.02	762.4	70.2	26.2	21	WSW	11	5	.....	.....	1	.....	.....	0	0	.....	
Tromsö	30.12	765.1	30.17	766.2	48.6	9.2	71	NE	4	2	.....	.....	8	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.87	758.8	30.07	763.6	69.1	20.6	85	NE	8.7	3.9	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.9	30.00	762.1	76.6	24.8	46	WNW	11.2	5.0	.....	.....	6	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.05	763.3	30.14	765.5	75.2	24.0	64	SW	3.8	1.7	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.2	30.04	763.1	70.2	21.2	69	SW	16.6	8.3	.....	.....	8	.....	.....	0.004	0.1	.....	The Staff.
Ponta Delgada, (Azores)	29.94	760.4	30.01	762.2	70.9	21.6	89	NE	16.8	7.5	.....	.....	10	.....	.....	0.185	4.7	Light rain	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 12′, W. 19° 18′	.....	.....	30.05	763.3	71.6	22	.....	S	.....	.....	4	.....	10	.....	S	3	.....	Raining	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	29.97	761.1	77.9	25.5	.....	SSE	.....	.....	3	.....	1	.....	SSE	2	.....	Blue sky	J. F. R. R. Bastos, Com'd't.
Quanza, S. 16° 47′, E. 11° 47′	.....	.....	30.07	763.8	60.8	16.0	.....	WSW	.....	.....	2	.....	0	.....	.....	0	.....	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07′, W. 23° 0′	.....	.....	29.98	761.6	82.4	28.0	.....	NNE	.....	.....	2	.....	6	.....	NNE	2	NNE	Blue sky	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.00	762.1	71.6	22.0	.....	WNW	.....	.....	2	.....	9	.....	WNW	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S, Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.60	751.7	30.00	761.9	76.6	24.8	38	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.66	753.4	30.07	763.7	70.2	21.2	34	NNW	2	1	.....	.....	1	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.82	757.5	30.06	763.5	66.7	19.3	51	WNW	7	3	.....	.....	5cs	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.92	759.9	29.93	760.3	59.2	15.1	71	W	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Knopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.37	746.0	29.98	761.6	67.1	19.5	42	NE	11	5	.....	.....	2k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.88	758 9	29.95	760.7	75.6	24.2	41	NNE	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.82	757.5	29.84	758.0	75.2	24.0	73	N	9	4	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.45	748.0	29.99	761.8	56.5	13.6	60	N	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.66	750.9	29.76	756.0	65.1	18.4	62	N	18	8	.....	.....	9s	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.80	757.0	29.82	757.5	49.8	9.9	87	NW	9	4	.....	.....	10	.....	.....	.....	.....	Raining	Ogorodnikof.
Tiflis	28.26	717.8	29.58	751.4*	84.4	29.1	44	Calm	0	0	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.65	753.2	29.67	751.1	82.4	28.0	50	Calm	0	0	.....	.....	9kn	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.34	745.3	29.60	751.9	60.6	15.9	48	N	9	4	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.39	721.0	29.30	744.3	55.2	12.9	96	N	11	5	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.32	744.6	29.53	750.1	88.0	31.1	46	NNW	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	27.99	711.0	29.57	751.0	86.4	30.2	50	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.30	744.3	29.80	756.8	75.2	24.0	44	NE	4	2	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.56	750.8	29.84	757.9	73.9	23.3	70	SSW	2	1	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.64	752.8	29.78	756.4	82.8	28.2	91	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.71	754.7	29.82	757.3	83.8	28.8	63	S	1.1	0.50	.....	.....	.....	.....	.....	0	0	Clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.84	757.9	29.89	759.3	81.7	27.6	56	NW	2.0	0.89	.....	2	3	W	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.05	687.1	.....	.....	72.5	22.4	59	SW	8.2	3.66	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez.
Madrid, Royal Observatory	27.74	704.5	29.85	758.1	82.0	27.8	35	SW	11.2	5.00	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.71	754.6	29.85	758.2	96.8	36.0	38	SW	4.9	2.19	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.04	737.6	29.92	759.9	65.1	18.4	88	SW	10.4	4.66	.....	.....	10	.....	.....	0.472	12.0	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.95	760.8	30.02	762.6	78.2	25.7	87	SE	5.6	2.5	.....	4c	0	ENE	.....	2.122	53.9	Fair	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.3	30.07	763.8	72.1	22.3	66	WSW	18.5	8.3	.....	0	3	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.4	30.03	762.7	84.9	29.4	50	SE	2.5	1.13	.....	3kn	4k	SE	SE	0.030	0.76	Cloudy	Leonardo de Tejada, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.07	763 6	30.10	764.6	57.2	14.0	.....	N	.....	.....	4	.....	2	.....	.....	0	0	.....	
Umea	30.11	764.8	30.16	766.1	59.0	15 0	66	E	.....	.....	6	.....	0	.....	.....	0	0	.....	
Hernosand	30.06	763.5	30.11	764.8	63.0	17.2	46	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	30.26	768.6	90.04	763.1	76.1	24.5	35	SSW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	30.05	763.2	30.11	764.7	64.8	18.2	54	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.93	760.1	30.00	762.0	77.0	25.0	39	N	9.8	4.4	.....	.....	0	.....	.....	0.002	0.06	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	724.1	29 90	759.4	67.5	19.7	95	NE	.....	.....	1	.....	9	.....	.....	0.488	12.4	Covered	The Observatory.
Zurich	28.28	718.2	29.83	757.7	70.2	26.2	59	NW	.....	.....	1	.....	6	.....	.....	0.283	7.2	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.7 mm.; Thermometer, —2.6 cent.; Relative Humidity, +42 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.2	75.4	24.1	65	N	16	7.0	.....	.....	4	.....	N	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.06	763.4	78.4	25.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.52	749.8	29.63	752.6	93.7	34.3	50	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.89	759.2	29.96	761.0	63.1	17.3	98	NE	5	2.2	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.38	746.2	29.66	753.4	75	23.9	.....	SW	5	2.2	.....	2c	2s	SW	SW	0	0	Fair	W. R. Bigg.
*Chatham, N B	29.92	760.0	29.98	761.5	62	16.7	98	S	1	0.4	.....	.....	Fog	.....	Calm	0.42	10.7	Foggy	G. A. Blair.
Charlottetown, P. E. Island	29.98	761.5	30.02	762.5	66	18.9	95	S	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.47	748.5	29.65	753.1	70.3	21.3	85	SW	.....	.....	1	4ck	6s	SW	.....	0	0	Cloudy	James Smith, M. A
Dalhousie, N. B	29.80	756.9	29.96	761.0	60.2	15.7	100	E	.....	.....	2	.....	.....	.....	.....	0.15	3.8	Drizzling	H. A. Johnson.
Esquimault, B. C.	.....	.....	.....	.....	49.3	9.6	100	Calm	.....	.....	.....	.....	10	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	29.83	757.7	29.85	758.2	50	10.0	100	NE	5	2.2	.....	5k	5n	SW	SW	0.16	4.1	Threatening	J. McWilliams.
Fredericton, N. B	29.93	760.2	29.99	761.7	63.0	17.2	89	SW	6	2.7	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.10	739.1	29.90	759.4	61	16.1	94	NW	8	1.3	.....	10k	Haze	NW	NW	0	0	Cloudy	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.63	727.2	29.68	753.9	65	18.3	100	Calm	.....	.....	0	3ks	0	.....	.....	0.30	7.6	Fair	James Grant.
*Halifax, N. S	29.87	758.7	30.00	762.0	62	16.7	98	SE	4	1.8	.....	.....	Fog	.....	.....	0.010	0.48	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.33	745.0	29.69	754.1	65.9	18.8	90	W	.....	.....	2	7ck	0	.....	.....	0.74	18.8	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	30.04	763.0	30.09	764.5	61	16.1	88	N	.....	.....	1	.....	10	.....	.....	0	0	Foggy	E. Weedon.
*Kingston, Ontario	29.36	745.7	29.68	753.9	71	21.7	95	S	21	9.4	.....	.....	10ks	.....	SW	0.05	1.3	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.01	762.2	30.05	763.3	65.0	18.8	.....	S	4	1.8	.....	.....	10n	.....	.....	0	0	Overcast	C. H. Rigby.
*Montreal, Quebec	29.52	749.8	29.71	754.6	67	19.4	92	E	9	4.0	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.00	736.6	29.67	753.6	63	17.2	99	E	2	0.9	.....	.....	2cs	8n	NE	NE	0.17	4.3	Light rain
Peterboro, Ontario	28.88	733.5	29.60	751.8	66.2	19.0	94	SW	.....	.....	2	.....	.....	10n	.....	.....	.....	Raining	Rev. R. Mosley.
Port Dover, Ontario	29.04	737.6	29.70	754.4	67	19.4	95	Calm	0	0	.....	5k	5n	W	W	0.47	11.9	Cloudy	J. F. Jeffers, B. A.
Port Hastings, N. S	30.00	762.0	30.05	763 3	58.5	14.7	.....	S	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	H. Morgan.
Port Stanley, Ontario	29.08	738.6	29.69	754.1	70	21.1	90	N	2	0.9	.....	.....	8ks	.....	W	Inap.	Inap.	Cloudy	Peter Grant.
*Quebec, Quebec	29.50	749.3	29.81	757.2	61	16.1	100	N	.....	.....	2	.....	10n	.....	N	0.26	6.6	Cloudy	M. Payne.
*Rockliffe, Ontario	29.20	741.7	29.63	752.6	62	16.7	94	W	4	1.8	.....	.....	8s	.....	W	0.15	3.8	Light rain	Capt. Ashe, R. N
St. Andrews, N. B	29.92	760.0	29.97	761.2	57	13.9	98	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. John, N. B	29.83	757.7	29.99	761.7	62	16.7	100	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
*Saugeen, Ontario	28.98	736.1	29.66	753.4	70	21.1	81	NW	10	4.5	.....	2k	0	N	.....	0.21	5.3	Clear	G. Murdock, C. E.
Stayner, Ontario	28.91	734.3	29.65	753.1	68	20.0	89	N	5	2.2	.....	8k	0	NW	.....	0.08	2.0	Cloudy	K. Stewart.
Stratford, Ontario	28.45	722.6	29.67	753.6	65.6	18.7	87	NW	8	3.6	.....	0	0	.....	.....	0.745	18.93	Clear	R. J. Cole.
*Sydney, C. B	30.05	763.3	30.07	763.8	64	17.8	90	S	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Toronto, Ontario	29.32	744.7	29.69	754.1	64	17.8	95	SW	6	2.7	.....	2c	5ks	W	W	0.47	11.9	Clearing	T. C. Hill.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.0	16.1	94	SE	.....	.....	.....	.....	10	.....	.....	0	0	Overcast	J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.55	750.6	29.76	755.9	73	22.8	81	S	5	2.2	....	.....	10s	.....	S	Inap.	Inap.	Cloudy	
Alpena, Michigan	29.11	739.4	29.72	754.9	68	20.0	79	NW	5	2.2	.....	.....	10ks	.....	NW	0.06	1.5	Cloudy	
Atlantic City, New Jersey	29.76	755.9	29.78	756.4	76	24.4	90	SE	4	1.8	.....	5ck	Fog	SE	Calm	0	0	Fair	
Augusta, Georgia	29.73	755.1	29.90	759.4	77	25.0	82	S	1	0.4	.....	2c	8ks	W	W	0.02	0.5	Cloudy	
Baltimore, Maryland	29.74	755.4	29.79	756.7	75	23.9	77	W	5	2.2	.....	5ck;k	2s	W	Calm	Inap.	Inap.	Fair	
Barnegat, New Jersey	29.77	756.1	29.79	756.7	76	24.4	86	SE	3	1.3	.....	2ck	5s	W	S	0	0	Fair	
Bismarck, Dakota	28.92	711.7	29.88	758.9	70	21.1	61	SE	12	5.4	.....	.....	10s	.....	SE	0	0	Cloudy	
BoiseCity, Idaho	27.19	690.6	30.07	763.8	56	13.3	52	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.73	755.1	29.88	758.9	62	16.7	100	E	7	3.1	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Brackettville, Texas	28.80	731.5	29.77	756.1	78	25.6	82	E	5	2.2	.....	0	0	.....	.....	0.16	4.1	Clear	
Breckenridge, Minnesota	28.90	734.0	29.87	758.7	60	15.6	97	W	3	1.3	.....	8ck	0	NW	.....	0	0	Cloudy	
Brownsville, Texas	29.87	758.7	29.93	760.2	85	29.4	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.00	736.6	29.66	753.4	67	19.4	89	W	6	2.7	.....	.....	10n	.....	SW	0.13	3.3	Light rain	
Burkes, Arizona	.....	.....	.....	.....	89	31.7	47	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.52	749.8	29.76	755.9	69	20.6	90	S	8	3.6	.....	.....	10n	.....	Calm	0.31	7.9	Light rain	
Cairo, Illinois	29.55	750.6	29.92	760.0	80	26.7	74	W	1	0.4	.....	0	0	.....	.....	0.76	19.3	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	69	20.6	60	NE	.....	.....	1	0	5ks	.....	S	0	0	Fair	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	74	23.3	51	N	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.72	678.7	30.21	767.3	78	25.6	57	E	.....	.....	1	2k	0	Calm	.....	0	0	Fair	
Campo, California	27.36	694.9	29.92	760.0	56	13.3	73	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.87	758.7	29.88	758.9	77	25.0	86	Calm	0	0	.....	.....	10n	.....	SW	1.42	36.1	Light rain	
Cape Henry, Virginia	29.82	757.4	29.84	757.9	75	23.9	86	SW	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear	
Cape Lookout, N. Carolina	29.85	758.2	29.87	758.7	78	25.6	86	NW	12	5.4	.....	.....	10ks	.....	W	0.23	5.8	Cloudy	
Cape May, New Jersey	29.76	755.9	29.79	756.7	75	23.9	90	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Castroville, Texas	29.15	740.4	29.81	757.2	76	24.4	95	SE	1	0.4	.....	0	5s	.....	SE	0	0	Fair	
Charleston, South Carolina	29.89	759.2	29.95	760.7	79	26.1	87	W	4	1.8	.....	.....	10s	.....	SW	0.58	14.7	Cloudy	
Cheyenne, Wyoming	24.11	612.4	30.05	763.3	64	17.8	73	SW	6	2.7	.....	0	0	.....	.....	0.03	0.8	Clear	
Chicago, Illinois	29.12	739.6	29.76	755.9	73	22.8	76	N	8	3.6	.....	8k	Haze	N	.....	0	0	Fair	
Cincinnati Ohio	29.17	740.9	29 78	756.4	76	24.4	77	W	1	0.4	.....	0	Sm'e	.....	Calm	0.30	7.6	Clear	
Cleveland, Ohio	29.02	737.1	29.69	754.1	73	22.8	76	SW	11	4.9	.....	5ck	0	NW	.....	0.02	0.5	Fair	
Columbus, Ohio	28.94	735.1	29.72	754.9	75	23.9	76	S	2	0.9	.....	0	0	.....	.....	0.58	14.7	Clear	
Concho, Texas	28.97	713.0	29.67	753.6	75	23.9	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.50	749.3	29.94	760.5	75	23.9	90	E	2	0.9	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.24	742.7	29.84	757.9	72	22.2	80	Calm	0	0	.....	1ck	0	NW	.....	0	0	Clear	
Denison, Texas	29.18	741.2	29.93	760.2	81	27.2	78	NE	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Denver, Colorado	24.84	630.9	30.06	763.5	62	16.7	72	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.04	737.6	29.87	758.7	78	25.6	65	Calm	.....	.....	0	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.04	737.6	29.67	753.6	72	22.2	80	NW	1	0.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Dodge City, Kansas	27.38	695.4	29.55	750.6	73	22.8	76	S	6	2.7	.....	5ck	2ks	SW	S	0	0	Fair	
Dubuque, Iowa	29.18	741.2	29.84	757.9	73	22.8	76	N	4	1.8	.....	0	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.20	741.7	29.84	757.9	70	21.1	70	SW	4	1.8	.....	2c	0	W	.....	0	0	Clear	
Eagle Pass, Texas	29.17	740.9	29.88	758.9	78	25.6	82	E	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.91	759.7	29.98	761.5	56	13.3	100	E	2	0.9	.....	.....	Fog	.....	Calm	0.01	0.3	Dense fog	
El Paso, Texas	.....	.....	.....	.....	84	28.9	46	SE	4	1.8	.....	0	5s	.....	SE	0	0	Fair	
Erie, Pennsylvania	28.99	736.3	29.66	753.4	72	22.2	85	S	7	3.1	.....	2cs	5s	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.18	741.2	29.80	756.9	64	17.8	78	N	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Florence, Arizona	.....	.....	.....	.....	80	26.7	59	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.52	648.2	29.59	751.6	77	25.0	59	N	1	0.4	.....	5cs	0	N	.....	0	0	Fair	
Fort Davis, Texas	25.25	641.3	30.21	767.3	70	21.1	60	Calm	0	0	.....	5c	0	SE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	76	24.4	86	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Fort Griffin, Texas	28.69	728.7	29.91	759.7	75	23.9	86	E	4	1.8	.....	2ck	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.80	756.9	80	26.7	73	SW	1	0.4	.....	0	2s	.....	W	0	0	Fair	
Galveston, Texas	29.90	759.4	29.94	760.5	81	27.2	91	SW	4	1.8	.....	.....	10s	.....	Calm	1.28	32.5	Cloudy	
Grand Haven, Michigan	29.15	740.4	29.77	756.1	65	18.3	94	NW	5	2.2	.....	.....	Fog	.....	Calm	0.26	6.6	Foggy	
Indianapolis, Indiana	29.04	737.6	29.77	756.1	77	25.0	73	SW	4	1.8	.....	1k	0	W	.....	0.01	0.3	Clear	
Indianola, Texas	29.93	760.2	29.95	760.7	81	27.2	83	SE	8	3.6	.....	.....	10s	.....	SE	0.01	0.3	Cloudy	
Jacksboro, Texas	28.84	732.5	29.90	759.4	80	26.7	70	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.90	759.4	29.93	760.2	78	25.6	86	S	12	5.4	.....	.....	10n	.....	S	0.11	2.8	Light rain	
Keokuk, Iowa	29.23	742.4	29.80	756.9	78	25.6	69	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.98	761.5	30.01	762.3	85	29.4	72	S	7	3.1	.....	8c;k	1ks	Calm;S	Calm	0	0	Fair	
Kittyhawk, North Carolina	29.81	757.2	29.83	757.7	77	25.0	91	W	9	4.0	.....	5ck	0	W	.....	0	0	Fair	
Knoxville, Tennessee	28.94	735.1	29.80	756.9	74	23.3	81	Calm	0	0	.....	1ck	0	W	.....	0	0	Clear	
La Crosse, Wisconsin	29.14	740.1	29.83	757.7	71	21.7	85	N	2	0.9	.....	2c	0	N	.....	0	0	Clear	
La Mesilla, New Mexico	26.04	661.4	30.19	766.8	72	22.2	54	Calm	0	0	.....	0	5s	Calm	Calm	0	0	Fair	
Laredo, Texas	29.46	748.3	29.78	756.4	81	27.2	83	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.83	630.7	30.10	764.5	65	18.3	73	S	5	2.2	.....	2k	0	W	.....	0	0	Fair	
Leavenworth, Kansas	29.07	738.4	29.87	758.7	76	24.4	86	Calm	0	0	.....	2c	0	NW	.....	0	0	Clear	
Los Angeles, California	29.52	749.8	29.85	758.2	61	16.1	91	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Louisville, Kentucky	29.31	744.5	29.83	757.7	80	26.7	66	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.22	742.2	29.87	758.7	76	24.4	76	W	2	0 9	.....	0	0	.....	.....	2.04	51.8	Clear	
Marquette, Michigan	29.10	739.1	29.76	755.9	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	
Mason, Texas	28.35	720.1	30.03	762.7	76	24.4	81	E	1	0.4	.....	.....	Haze	.....	Calm	0	0	Hazy	
Memphis, Tennessee	29.62	752.3	29.92	760.0	80	26.7	82	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.11	739.4	29.80	756.9	68	20.0	84	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.89	759.2	29.93	760.2	79	26.1	82	S	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Montgomery, Alabama	29.68	753.9	29.91	759.7	78	25.6	73	Calm	0	0	.....	0	0	.....	.....	0.45	11.4	Clear	
Morgantown, West Virginia	28.78	731.0	29.77	756.1	73	22.8	72	S	6	2.7	.....	0	1s	.....	SW	Inap.	Inap.	Clear	
Mt. Washington, N. H.	23.74	604.3	30.15	765.8	49	9.4	77	S	52	23.3	.....	8ck	5ks	SW	S	0.08	2.0	Cloudy	
Nashville, Tennessee	29.39	746.5	29.89	759.2	80	26.7	74	W	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear	
New Haven, Connecticut	29.73	755.1	29.84	757.9	73	22.8	90	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
New London, Connecticut	29.80	756.9	29.84	757.9	70	21.1	100	E	6	2.7	.....	.....	10s;fg	.....	Calm;E	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	81	27.2	83	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.80	756.9	29.85	758.2	70	21.1	90	E	6	2.7	.....	.....	Fog	.....	.....	0	0	Foggy	
New York, New York	29.66	753.4	29.84	757.7	67	19.4	94	SW	15	6.7	.....	.....	10n	.....	Calm	0.40	10.2	Light rain	
Norfolk, Virginia	29.79	756.7	29.84	757.9	79	26.1	82	SW	5	2.2	.....	0	0	.....	.....	0.65	16.5	Clear	
North Platte, Nebraska	27.07	687.6	29.51	749.5	69	20.6	95	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter	30.05	763.3	30.09	764.3	45	7.2	100	S	2	0.9	.....	.....	Fog	.....	Calm	0.32	8.1	Foggy	
Omaha, Nebraska	28.83	732.3	29.84	757.9	77	25.0	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.41	747.0	29.71	754.6	70	21.1	85	S	6	2.7	.....	.....	10s	.....	SW	0.88	22.4	Cloudy	
Pembina, Dakota	29.12	739.6	29.93	760.2	58	14.4	94	W	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Philadelphia, Pennsylvania	29.75	755.6	29.80	756.9	74	23.3	86	SW	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Phœnix, Arizona	28.66	728.0	.....	.....	83	28.3	50	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	38	3.3	54	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.13	612.9	29.90	759.4	70	21.1	44	S	6	2.7	.....	0	2s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	28.97	735.8	29.73	755.1	71	21.7	89	SW	5	2.2	.....	5c	0	W	.....	0.05	1.3	Fair	
Port Huron, Michigan	29.04	737.6	29.66	753.4	70	21.1	80	NW	10	4.5	.....	2k	0	W	.....	0.25	6.3	Clear	
Portland, Maine	29.83	757.7	29.88	758.9	66	18.9	89	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Oregon	30.06	763.5	30.16	766.1	49	9.4	85	Calm	0	0	.. ..	0	Fog	.....	Calm	0.03	0.8	Clear	
Prescott, Arizona	24.86	631.4	30.22	767.6	67	19.4	55	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.98	761.5	30.00	762 0	83	28.3	79	S	12	5.4	.....	5k	0	S	.....	0.04	1.0	Fair	
Red Bluff, California	29.53	750.0	29.88	758.9	69	20.6	52	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.10	739.1	29.67	753.6	71	21.7	75	SW	6	2.7	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
Roseburg, Oregon	29.56	750.8	30.14	765.5	45	7.2	92	Calm	0	0	.....	0	0	.....	.....	0.06	1.5	Clear	
Sacramento, California	29.78	756.4	29.86	758.4	62	16.7	72	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.87	758.7	76	24.4	64	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.91	759.7	29.92	760.0	77	25.0	91	N	4	1.8	.....	0	0	.....	.....	1.00	25.4	Clear	
St. Paul, Minnesota	29.04	737.6	29.83	757.7	69	20.6	75	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	77	25.0	38	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.23	742.4	29.79	756.7	77	25.0	91	NE	1	0.4	.....	5ck	0	NE	.....	0	0	Fair	
San Diego, California	29.81	757.2	29.88	758.9	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.10	739.1	29.73	755.1	73	22.8	81	W	13	5.8	.....	.....	10ks	.....	W	0.10	2.5	Cloudy	
Sandy Hook, New Jersey	29.78	756.4	29.81	757.2	73	22.8	95	S	4	1.8	.....	10c;k	0	SW	.....	0	0	Cloudy	
San Francisco, California	29.85	758.2	29.92	760.0	54	12.2	87	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.42	594.9	29.96	761.0	59	15.0	59	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.84	757.9	29.93	760.2	74	23.3	100	S	4	1.8	.....	.....	10n	.....	S	0.31	7.9	Clear	
Shreveport, Louisiana	29.73	755.1	29.93	760.2	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	1.94	49.3	Heavy rain	
Silver City, New Mexico	24.32	617.7	.....	.....	64	17.8	67	Calm	0	0	.....	5c	0	Calm	.....	0	0	Clear	
Smithville, North Carolina	29.88	758.9	29.91	759.7	75	23.9	90	W	5	2.2	.....	.....	10s	.....	W	0.16	4.1	Cloudy	
Springfield, Massachusetts	29.65	753.1	29.78	756.4	74	23.3	81	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	26.92	683.8	29.92	760.0	72	22.2	84	S	8	3.6	.....	4ck	0	Calm	.....	0	0	Fair	
Thatcher's Island, Mass	29.82	757.4	29.87	758.7	64	17.8	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Toledo, Ohio,	29.05	737.9	29.68	753.9	77	25.0	73	S	8	3.6	.....	0	2s	.....	NW	Inap.	Inap.	Fair	
Tucson, Arizona	27.27	692.6	29.82	757.4	83	28.3	60	E	2	0.9	.....	5k	0	E	.....	0.04	1.0	Fair	
Tybee Island, Georgia	29.90	759.4	29.93	760.2	74	23.3	100	Calm	0	0	.....	.....	10n	.....	S	1.16	29.5	Heavy rain	
Umatilla, Oregon	29.78	756.4	.....	.....	48	8.9	56	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.72	754.9	29.96	761.0	79	26.1	91	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Virginia City, Montana	24.32	617.7	29.80	756.9	56	13.3	75	Calm	0	0	.....	0	0	.....	.....	0.97	24.6	Clear	
Visalia, California	29.52	749.8	29.88	758.9	64	17.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.71	754.6	29.82	757.4	72	22.2	90	W	5	2.2	.....	5ck	0	Calm	.....	2.15	54.6	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	38	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.82	757.4	29.90	759.4	74	23.3	95	W	5	2.2	.....	.....	10s	.....	NW	0.96	24.4	Cloudy	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	51	10.6	34	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.81	757.2	29.86	758.4	68	20.0	100	E	6	2.7	.....	Fog	Fog	Calm	Calm	0	0	Foggy	
Yankton, Dakota	28.69	728.7	29.93	760.2	66	18.9	86	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.63	752.6	29.76	755 9	84	28.9	61	E	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.73	755.1	29.78	756.4	58.0	14.4	100	S	13	5.8	.....	.....	10n	.....	S	1.40	35.6	Raining	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.98	761.5	30.00	762.0	80	26.7	82	SE	3.6	1.6	.....	8c	0	NE	.....	1.93	49.0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	82	27.8	79	E	3	1.3	.....	4c	4s	S	.....	0.2	5.	Clear	G. O. Gellich.
Kingston, Jamaica, W. I	30.13	765.3	30.14	765.5	83	28.3	83	Calm	0	0	.....	8c	2s	Calm	.....	0	0	.....	James Gall.
Navassa, W. I	29.89	759 2	29.97	761.2	85	29.4	.....	E	5.4	2.4	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.05	763 3	30.05	763.3	80	26.7	82	SE	.....	.....	3	0	5k	.....	.....	0.190	4.83	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A	25.22	640.6	.....	.....	68.5	20.3	78	Calm	0	0	.....	1cs	3ks	.....	.....	0.04	1.0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo: for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.05	763.3	80	26.7	80	26.7	87	Calm	0	0	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.84‡	757.9‡	.....	.....	61	16.1	66	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	.....	Foggy	
Naval Hospital, Yokohama, Japan	29.74*	755.4*	79	26.1	77.9	25.5	91	Calm	.....	.....	0	.....	7c	.....	SW	0	0	.....	.....	Fair...	
Adams. Pago-Pago	30.12	765.0	80	26.7	79	26.1	100	ESE	.....	.....	2	.....	5	.....	S&E	.....	.....	.....	.....	Pleasant... ...	
Alliance. Havre, France	29.77‡	756.1‡	.....	.....	71	21.7	80	SSW	.....	.....	0-1	.....	7	.....	S	.....	.....	.....	.....	Rainy.....	
Ashuelot. Nagasaki, Japan	30.07	763.8	83	28.3	82	27.8	96	SW	.....	.....	2	.....	8	.....	SW	.....	.....	.....	.....	Cloudy	
Canonicus, New Orleans, La	29.98	761.5	56	13.3	84	28.9	96	SW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.	29.79‡	756.7‡	.....	.....	69	20.6	90	SW	18	8.0	.....	.....	10	.....	SW	0.4	10.	... .	.....	Heavy rain..	
Constitution, Havre, France	29.75‡	755.6‡	.....	.....	70	21.1	??	SSE	.....	.....	2	.....	7	.....	S	.....	.....	.....	.....	Cloudy	
Despatch, Volo, Turkey	29.93‡	760.2‡	.....	.....	80	26.7	73	SSE	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.	29.93	760.2	76	24.4	75	23.9	90	SW	8.4	3.8	.....	.....	2	.....	Calm	0.2	5.	.....	.....	Fair	
Gettysburg Villefranche, France	29.88‡	758.9‡	.....	.....	82	27.8	91	E	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.38	771.6	.....	.....	74	23.3	68	N	2.4	1.1	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Marion, Villefranche, France	30.00	762.0	77	25.0	77	25.0	77	E	.....	.....	2	.....	5	.....	Calm	0	0	Smooth	.....	Fair..... ...	
Michigan, Marquette, Mich.	29.33	745.0	71	21.7	67	19.4	74	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.72‡	754.9‡	.....	.....	80	26.7	87	WSW	.....	.....	0-1	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.00†	764.5†	.....	.....	77	25.0	91	NW	5	2.2	.....	.....	8	.....	.....	0.07	1.8	.....	.....	Cloudy.	
Onward, Callao, Peru	30.10†	764.5†	.....	.....	61	16.1	82	S	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Palos, Tientsin, China	29.90	759.4	86	30.0	82	27.8	83	SE	.....	.....	1	.....	8	.....	W	.....	.....	.....	.....	Cloudy	
Pensacola, Mare Island, California	29.98	761.5	64	17.8	58	14.4	94	SSW	11	4.9	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y.	29.80‡	756.9‡	.....	.....	74	23.3	90	ESE	.....	.....	2	.....	10	.....	ESE	.....	.....	.....	.....	Drizzling....	
Ranger. Hong-Kong, China	30.04	763.0	81	27.2	81	27.2	91	E	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy	
Rio Bravo, Brownsville, Texas	29.89	759.2	80	26.7	80	26.7	91	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Smoky.....	
Santee, Annapolis, Md.	29.75	755.6	.. ..	.....	78	25.6	73	NW	.....	.....	1	.....	8	.....	WNW	0.01	0.3	.....	.....	Fair	
St. Louis, League Island, Pa	29.89	759.2	75	23.9	74	23.3	90	S	3	1.3	.....	.....	10	.....	S	0	0	.....	.....	Threatening	
Supply, Havre, France	29.82	757.4	71	21.7	71	21.7	80	SW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	29.86‡	758.4‡	.....	.....	65	18.3	94	SE	.....	.....	1	.....	Fog	.....	.....	.....	.....	.....	.....	Foggy	
Trenton, Cherbourg, France	29.70‡	754.4‡	.....	.....	66	18.9	89	SW	.....	.....	2	.....	10	.....	S;W	0.2	5.	.....	.....	Raining.....	
Tuscarora, N. 16° 24′, W. 99° 14′	29.75	755.6	81	27.2	81	27.2	87	NNW	.....	.....	1	.....	5	.....	Calm	0	0	Long	S	Fair	
Vandalia, Naples, Italy	29.94‡	760.5‡	.....	.....	81	27.2	70	SW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Clear.	
Wabash, Boston, Mass.	29.84‡	757.9‡	.....	.....	64	17.8	100	ESE	5	2.2	.....	.....	10	.....	Calm	0	0	....	.....	Foggy	
Wyoming, N. 41° 32′, W. 65° 41′	29.91†	759.7†	.....	... ...	71	21.7	95	E	.....	.....	5	.....	5	.....	E	.....	.....	Long	SE	D. clouds....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 22′, E. 156° 39′		29.87*	758.7*	60	15.6	100	NW			3		5		NW	0	Mod'ate	NNE	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 35° 03′, E. 152° 28′		29.87†	758.7†	72	22.2	80	WNW	25	11.2			6		WNW	Mod'ate	Mod'ate	NNE	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Olympia, W. T.		30.11†	764.8†	59	15.0	82	NE			2		2		NW				Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington, N. 35° 47′ W. 127° 20′		30.48‡	774.2‡	66	18.6	??	NW			4		2		NW	0	Smooth	NW	Fine	Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 44° 10′, W. 50° 4′		29.89*	759.2*	65	18.3	89	W			4		Fog		W	6 hours	None		Foggy	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 40° 18′, W. 146° 36′		29.97*	761.2*	62	16.7	77	WNW			5		n		NW		Rough	NW	Showery	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 23° 35′, E. 117° 50′		29.86	758.4	82	27.8	87	Var.			1–2		0				Smooth		Blue sky	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 40° 43′, W. 6° 57′		29.66	753.4	71	21.7	75	SW			2–3		5		S	1 hour	1	S	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 43° 54', W. 45° 50'		30.11*	764.8*	70	21.1	85	NE			4		Haze		WNW	Light	Light	ENE	Hazy	Captain Sargent.
S. S. Ohio, N. 48° 7', W. 47° 37'		30.04	763.0	56	13.3	94	Calm			0		10		Calm	0	Small	N	Foggy	Captain Morrison.
S. S. Pennsylvania																			Captain Harris.
RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Roudle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			
MARINE SERIES. (Miscellaneous.																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.38*	771.6*	42.5	5.8	84	SE			1		9ks						Fair	O. T. Sherman.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 7, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:0 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:30 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			Dr. Ollive.
Nemours			30.06	763.4	82.0	27.8	65	N			1		0			0	0		Kesxuche.
Algiers			29.98	761.5	85.3	29.6	57	NNE			3		1			0	0	Clear	Tourillere.
La Calle			29.98	761.6	89.1	31.7	66	NNW			1		2			0	0	Very fair	Foufrede.
Tunis			30.08	762.7	89.8	32.1	20									0	0	Fair	Jacques.
Sfax			30.13	765.2	87.8	31.0		E			2		0			0	0	Clear	Gau.
Saida			30.08	764.0	89.8	32.1	20	N			1		0			0	0	Clear	Herbin.
Tebessa			30.05	763.2	97.0	36.1		WNW			3		4			Inap.	Inap.	Cloudy	Watrin.
Geriville			30.13	765.3	95.0	35.0	24	W			6		4			0	0	Cloudy	Brugnlaux.
Laghouat			30.07	763.7	96.8	36.0	28	E			2		0			0	0	Clear	Bertrand.
Biskra			29.98	761.6	105.8	41.0	24	E			2		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.38	746.3	29.91	759.6	76.5	24.7	64	NW			3		6			0.008	0.2	Raining	Prof. Ivan Stozi.
Cracow	29.18	741.1	29.89	759.3	77.5	25.3	47	W			2		8						Prof. Dr. Karlinski.
Eperies	29.05	737.8	29.88	758.9	81.7	27.6	67	Calm			0		6k;s					Thunder-storm.	
Gratz	28.68	728.5	29.88	759.0	78.9	23.3	77	E			2		10			0	0		Julius Mikolik.
Hermannstadt	28.57	725.6	29.91	759.7	78.6	25.9	48	WSW			2		3			2.267	57.60	Thunder-storm.	Andreas Rospini.
Kremsmünster	28.65	727.8	29.97	761.1	63.0	17.2	88	W			3		10			0	0		Prof. Reissenberg
Lemberg	28.96	735.5	29.90	759.4	74.8	23.8	52	NE			1		0			0.079	2.0		Prof. C. Wagner
Pola	29.85	758.3	29.96	761.0	75.2	24.0	79	SE			3		1ks			0	0		Dr. T. Stanecki.
Szathmar	29.54	750.3	29.99	761.8	69.8	21.0	68	NW			3		9			0.173	4.4		I.R.Hydrographic Office
Szegedin																0.130	3.3		Johann Tamas, S. J.
Trieste	29.89	759.2	29.99	761.8	78.8	26.0	66	W			1		10						Karl Stancel.
Vienna	29.23	742.4	29.91	759.8	74.3	23.5	65	W			3		5			0.079	2.0	Raining	P. Busin.
																0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.52	724.5	29.04	760.5	71.2	21.8	59	SW			2		7			0.004	0.1		Prof. M. Passau.
Brussels	29.72	754.8	29.91	759.7	74.3	23.5	48	WSW			4		5		SW	0.010	0.25		Royal Observatory
Furnes	29.92	760.0	29.95	760.6	68.5	20.3	81	SW			4		4			0.102	2.6		M. E. de Cae.
Maeseyck	29.78	756.4	29.91	759.6	77.9	25.5	68	SSW			2		6			0.004	0.1		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

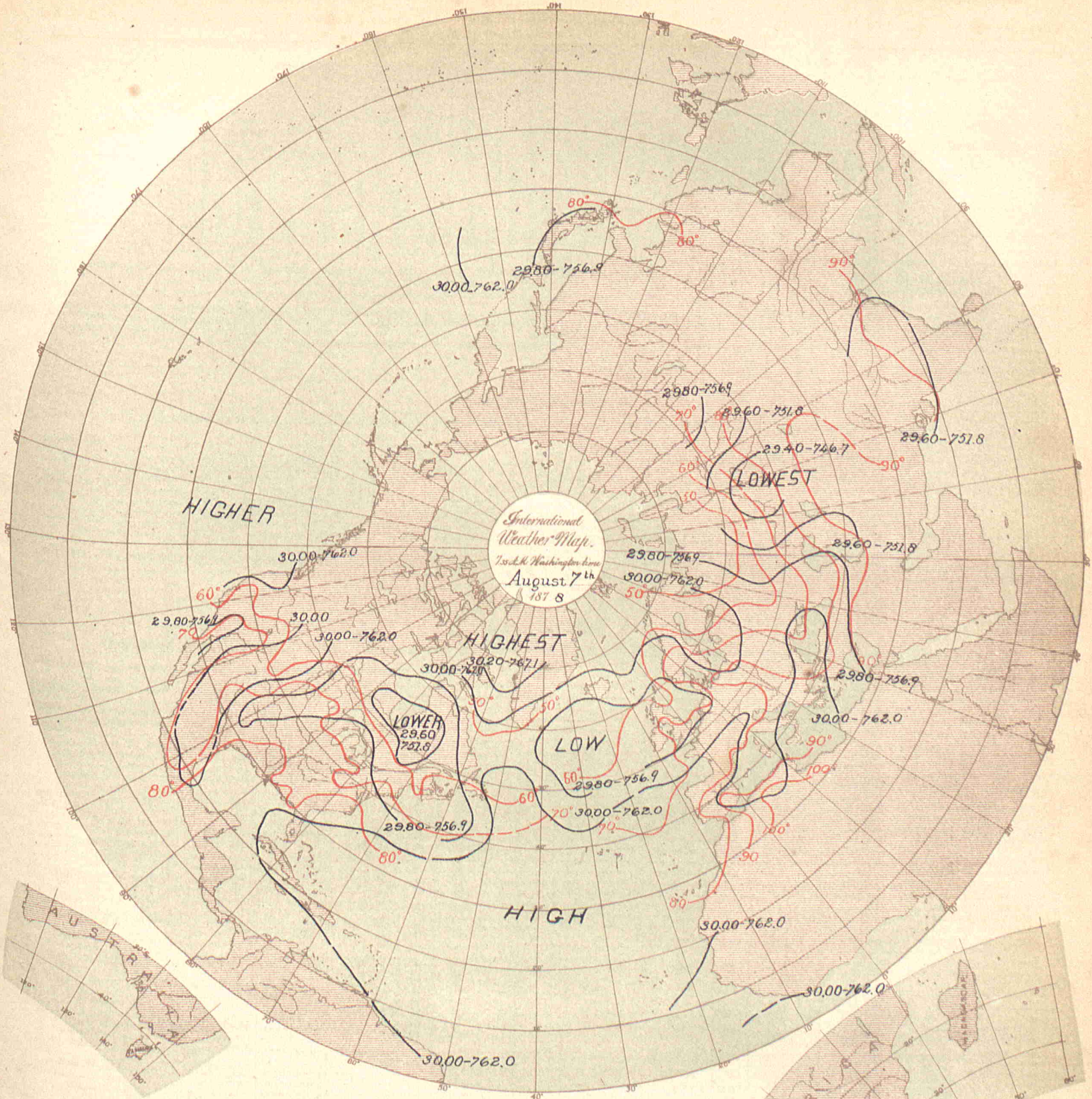
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.57	751.1	29.67	753.6	59.0	15.0	.....	SSE	7	3.1	.....	.....	10	.....	.....	0.075	1.91	Rain and fog	W. Boswell.
Ardrossan	29.61	752.1	29.63	752.6	64	17.8	.....	Calm	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	29.66	753.4	70.2	21.2	.....	SSW	9	4.0	.....	.....	6	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.72	754.9	68.9	20.5	.....	NW	6	2.7	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Birr Castle, (Parsonstown)	29.51	749.5	29.70	754.4	65.0	18.3	.....	WSW	.....	.....	3	.....	9	.....	.....	.....	.....	Showery	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.33	745.0	29.72	754.9	66.9	19.4	.....	SW	.....	.....	1	.....	8	.....	.....	0.82	20.8	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	82	27.8	.....	E	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.80	756 9	75.0	23.9	.....	SW	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds	H. Todd. [H. C.
Cardington	.....	.....	29.82	757.4	75.6	23.9	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.71	754.6	29.84	757.9	72.2	22.3	.....	S	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.41	721.6	29.85	758 2	62.0	16.7	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	Showery	Alexander Watt. [Col. Mar-
Donaghadee	29.62	752.3	29.65	753.1	67	19.4	.....	SE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan. [tin, R. E.
Dover	29.89	759.2	29.92	760.0	69	20.6	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	¾ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	29.71	754.6	70.0	21.1	.....	SW	2.2	1.0	.....	.....	5?	.....	.....	.....	.....	Overcast?	Thomas Mackereth.
Falmouth, Observatory	29.66	753.4	29 88	758.9	70.1	21.2	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.47	697.7	29.75	755.6	76.0	24.4	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.75	755.6	29.98	761.5	83	28.3	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	.....
Galway, Queen's College	.....	.....	29.63	752.6	65	18.3	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.95	760.7	30.00	762.0	76.9	24.9	.....	W	.....	.....	5	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.45	748.0	29.66	753.4	65.1	18.4	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.81	757.2	29.82	757.4	73	22.8	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.67	753.6	29.84	757.9	71.5	21.9	.....	SW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.70	754.4	29.91	759.7	66.5	19.2	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.93	760.2	70	21.1	.....	SW	.....	.....	4	.....	6k	.....	.....	.....	.....	Raining	M. P. Moyle.
Holyhead	29.69	754.1	29.74	755.4	67	19.4	.....	SSW	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.68	753.9	29.97	761.2	67.0	19.4	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	J. Eisher.
Kew, Observatory	.....	.....	29.84	757.9	68.7	20.4	.....	SSW	19	8.5	.....	.....	7	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.67	753.6	29.70	754.4	67	19.4	.....	ESE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.77	756.1	73.0	22.8	.....	SW	.....	.....	1	.....	1	.....	.....	Blank	Blank	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.94	760.5	30.01	762.2	85	29.4	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. J. Becket, A. H. C.
Nairn	29.53	750.0	29.62	752.3	62	16.7	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder-storm	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	85.5	29.7	.....	SE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.69	751.8	29.78	756.4	73.3	22.9	.....	SW	.....	.....	3	.....	5ks;k	.....	.....	.....	.....	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.26	743.2	29.76	755.9	67.0	19.4	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.82	757.4	73	22.8	.....	S	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	H.E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	69.8	21.0	.....	SW	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.71	754.6	29.75	755.6	68	20.0	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.64	752.8	29.80	756.9	66	18.9	.....	SW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.68	753 9	62	16.7	.....	E	16	7.2	.....	.....	10	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.95	760.7	81.8	29 3	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D clouds	Sergt. W. H. Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blank	Blank	.....	W. F. Cooper.
Silloth Rectory	29.66	753.4	29.69	754.1	75.6	24.2	58	S	.....	.....	3	.....	0	.....	.....	0.025	0.63	Blue sky	C. Edith Redford.
Stonyh urst, Observatory	29.34	745.2	29.74	755.4	68.5	20.3	.....	W	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	29.67	751.1	29.60	751.8	65	18.3	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C.H. Griffith, F.M.S
Thurso	.....	.....	29.65	753.1	66	18.9	.....	ESE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.90	759.4	71	21.7	.....	W	.....	.....	6	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	.....	.....	29.76	755.9	65.7	18.7	.....	SW	23	10.3	.....	.....	7	.....	.....	Blank	Blank	D. clouds	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E.J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.71	754.6	52.0	11.1	87	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.91	759.7	30.10	764.6	73.4	23.0	74	E	17.5	7.8	.....	1	2	.....	E	0.03	0.8	Squally	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	48.0	8.9	86	NNE	7	3.1	.....	.....	5	.....	WNW	0.03	0.8	.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngeltause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudinss for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. 0—10.	Clouds. Direction. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 49° 15′ W. 27° 40′	.....	.....	29.98	761.5	62	16.7	W	.....	.....	1	8	SW	Smooth	.....	D. clouds	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 61° 12′, W. 48° 10′	.....	.....	29.97	761.2	48	8.9	WNW	.....	.....	3	1	.....	.....	.....	Blue sky	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 42° 15′, W. 65° 40′	.....	.....	29.68	753.9	61	16.1	WSW	.....	.....	3	.....	.....	5	ESE;SW	Foggy	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.24	666.5	.....	.....	67.1	19.5	91	SE	.....	.....	1	p	4c;s	.....	E	Inap.	Inap.	.....	Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.89	759.1	29.93	760.3	73.6	23.1	55	ESE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....
Fanöe	30.17?	766.2?	30.19?	766.7?	66.6	19.2	97	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.97	761.3	30.02	762.4	43.2	6.2	93	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	29.75	755.7	29.80	756.8	53.2	11.8	84	SE	.....	.....	7	.....	8	.....	.....	.....	.....	Raining	.....
Thorshavn, (Faröe)	29.80	756.9	29.84	757.8	52.0	11.1	98	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.71	754.7	29.88	759.0	66.2	19.0	79	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Thunder-storm	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.47	748.4	30.02	762.4	69.4	20.8	80	W	.....	.....	1	.....	6	.....	.....	0.173	4.40	Cloudy	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.94	760.4	30.02	762.4	83.5	28.6	47	N	.....	.....	2	.....	0	.....	.....	0	0	Clear.	M. Girard, Director.
Bar-sur-Seine	29.47	748.5	30.00	762.0	74.7	23.7	49	S	.....	.....	1	.....	8kn	.....	SW	0.035	0.9	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.69	754.2	29.97	761.1	72.7	22.6	66	SW	.....	.....	1	.....	8	.....	WSW	0.010	0.25	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.20	741.6	30.06	763.4	70.2	21.2	76	S	.....	.....	2	.....	5	.....	SW	0.55	14.	Cloudy	Normal School.
Bourg-en-Bresse, N. School	29.19	741.3	30.12	765.1	75.4	24.1	77	N	.....	.....	1	.....	5k	.....	N	0.94	24.	Cloudy	M. Marlot, Director.
Bourges, Normal School	29.54	750.4	30.08	763.9	74.1	23.4	74	S	.....	.....	1	.....	2k	.....	S	0.08	2.	Slightlycl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.69	754.0	29.93	760.2	70.9	21.6	70	W	.....	.....	3	.....	9	.....	W	0	0	.....	The Staff.
Carcassonne, Normal School	29.55	750.5	29.94	760.5	77.7	25.4	58	N	.....	.....	2	.....	5	N	.....	0.453	11.5	Partly cl'dy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.37	746.0	29.93	760.1	66.9	19.4	96	W	.....	.....	3	.....	10	.....	.....	0.24	6.	Heavy rain	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.67	753.5	29.97	761.3	77.7	25.4	55	S	.....	.....	1	.....	5	S	S	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.72	729.4	30.02	762.6	72.7	22.6	56	W	.....	.....	1	.....	.....	.....	SW	0	0	.....	Alluard, Director.
Commercy, Normal School	29.18	741.1	30.02	762.6	71.1	21.7	62	SW	.....	.....	6	.....	2kn	.....	SW	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grésasque*	28.93	734.9	30.08	763.9	83.8	28.8	24	NW	.....	.....	4	.....	2	.....	NW	0	0	¼ Covered	G. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.83	757.6	30.03	762.8	83.1	28.4	84	W	.....	.....	1	.....	5	.....	SW	0.335	8.5	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.69	754.1	29.99	761.7	70.3	21.3	61	NW	.....	.....	4	.....	5	.....	W	0.39	10.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.16	740.6	30.04	763.0	73.9	23.3	60	W	.....	.....	2	.....	5	.....	E	0.024	0.60	Cloudy	Baudry, Director.
Lorient, Naval Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	72.1	22.3	79	W	.....	.....	1	.....	5	.....	W	1.394	35.4	Cloudy	M. Galzin, Director.
Mirecourt, Normal School	28.99	736.3	29.99	761.7	74.5	23.6	64	SSW	.....	.....	3	.....	5kn	.....	NE	0	0	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.78	756.4	30.02	762.6	85.6	29.8	58	NW	.....	.....	4	.....	0	.....	.....	0	0	Clear.	Royer, Director.
Orleans, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bernard, Director.
Paris, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	National Observatory.
Privas, Normal School	29.02	737.1	30.04	763.1	78.4	25.8	56	NW	.....	.....	1	.....	n	NW	NW	0	0	.....	M. Cantier.
Puy de Dome (Summit)	25.24	641.1	.....	.....	53.6	12.0	100	W	.....	.....	2	.....	.....	.....	W	0.390	9.9	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.05	763.3	30.08	764.1	76.1	24.5	46	SW	.....	.....	4	.....	8	.....	SW	0.43	11.	¾ covered	M. Giguel, Director.
Ronen, Normal School	29.83	757.6	29.91	759.7	73.6	23.1	54	WSW	.....	.....	1	.....	0	.....	.....	0.079	2.0	Clear.	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.95	760.7	69.6	20.9	56	NW	.....	.....	2	.....	1	.....	WSW	0.363	9.22	Clear.	M. H. Hercouet.
Tarbes, Normal School	28.98	736.0	30.11	764.8	64.4	18	80	SW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.41	746.9	30.09	764.3	76.5	24.7	66	NE	.....	.....	1	.....	5	.....	W	1.567	39.8	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.79	756.7	81.1	27.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.79	20.	.....	L'Abbé Marchès.
Lyons	.....	.....	30.10	764.6	77.0	25.0	48	.....	.....	.....	.....	.....	4	.....	.....	0.933	23.7	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.96	761.0	85.1	29.5	37	W	.....	.....	2	.....	1	.....	.....	0.008	0.20	.....	The Staff.
Mont-Louis	24.97	634.2	30.28	769.2	64.8	18.2	41	ENE	9.3	4.17	.....	.....	4	.....	SW	0	0	.....	M. Cave.
Nice	.....	.....	29.99	761.7	77.4	25.2	80	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.69	754.0	29.96	761.0	73.9	23.3	64	SW	.....	.....	2	.....	7	.....	SSW	0.031	0.8	.....	Marié Davy, Director
Perpignan	.....	.....	30.05	763.2	81.3	27.4	50	NE	5.6	2.50	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.67	575.8	.....	.....	51.4	10.8	.....	W	.....	.....	3	.....	8	.....	.....	0	0	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.80	757.0	29.97	761.2	69.1	20.6	82	S	.....	.....	2	.....	9	WSW	SSW	0.106	2.7	Covered	E. Renou.
Toulouse, Observatory	29.43	747.5	30.15	765.9	74.1	23.4	60	N	.....	.....	1	.....	8	.....	.....	0	0	.....	The Staff.
Versailles, (near Paris)	29.89	759.1	30.08	764.1	71.1	21.7	74	W	.....	.....	1	.....	7	.....	WSW	0.138	3.5	.....	C. Marquet.
Zi-Ka-Wei, (near Shanghai)	.....	.....	29.97	761.3	75.6	24.2	49	W	.....	.....	2	.....	8	.....	.....	0.162	4.12	Cloudy	Dr. A. Bérigny.
.....	29.80	756.8	29.82	757.4	79.5	26.4	98	SSE	0.2	0.1	.....	.....	2	.....	.....	0.583	14.8	Clear.	Marc Dechevrens, S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.05	737.8	29.89	759.1	78.1	25.6	67	W	.....	.....	3	.....	3	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.74	755.3	29.90	759.5	76.6	24.8	67	S	.....	.....	3	.....	10	.....	.....	0.004	0.1	Raining	Prof. Arndt.
Breslau	29.41	746.9	29.93	760.3	84.7	29.3	40	ESE	.....	.....	3	.....	3	.....	.....	.....	.....	Raining	Royal University Obs'y.
Carlsruhe	29.57	751.1	29.98	761.5	74.8	23.8	71	SW	.....	.....	3	.....	9	.....	.....	0	0	.....	Albert Senz.
Cassel	29.33	745.0	29.94	760.4	72.0	22.2	82	ESE	.....	.....	2	.....	9	SE	.....	.....	.....	Thunder-storm.	Dr. H. Möhl.
Crefeld	29.75	755.7	29.91	759.8	77.9	25.5	49	W	.....	.....	2	.....	4k	.....	.....	0.08	2.	.....	Director Lose.
Emden	29.75	755.7	29.79	756.7	76.1	24.5	71	W	.....	.....	1	.....	5	.....	.....	2.212	56.2	Lightning	Prof. Prestel.
Frankfort on the Main	29.67	753.5	30.01	762.3	75.4	24.1	.....	SSW	.....	.....	1	.....	8	.....	.....	0.280	7.1	.....	Physical Society.
Friedrichshafen	28.63	727.3	30.02	762.6	69.4	20.8	74	S	.....	.....	2	.....	3	WSW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.82	757.5	29.89	759.2	66.2	19.0	98	WNW	.....	.....	3	.....	10	.....	.....	0.157	4.0	Raining	Captain F. Hegemann.
Kiel	29.88	759.0	29.90	759.4	67.8	19.9	92	WNW	.....	.....	2	.....	10	.....	.....	0.159	4.06	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.93	760.3	30.01	762 3	74.5	23.6	37	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. E. Luther.
Köslin	.....	.....	29.93	760.2	81.1	27.3	.....	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.54	750.2	29.94	760.4	78.4	25.8	56	SW	.....	.....	3	.....	8	SW	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	30.00	762.0	30.05	763.2	69.8	21.0	86	NNW	.....	.....	2	.....	1cs	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	30.02	762.4	30.03	762.8	70.9	21.6	58	NE	.....	.....	3	.....	0	.....	.....	0	0	.....	A. Lothes.
Posen	29.71	754.7	29.98	761.6	82.4	28.0	38	SE	.....	.....	6	.....	9	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.49	749.1	30.02	762.4	77.9	25.5	57	S	.....	.....	3	.....	7	SSW	.....	0.039	1.00	Thunder-storm	Astronomical Observatory.
Stuttgart	29.07	738.3	29.97	761.2	74.3	23.5	61	W	.....	.....	.....	.....	7	W	.....	0.563	14.3	.....	Prof. Schoder.
Treves, (Trier)	29.34	745.1	29.86	758.3	75.0	23.9	54	WSW	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.53	724.7	29.98	761.5	71.2	21.8	65	W	2.9	1.3	.....	.....	9ck	.....	W	0.012	0.3	.....	Dr. Von Bebber.
Wustrow, Naval School	29.87	758.8	29.91	759.8	81.1	27.3	54	ESE	.....	.....	2	.....	7	.....	.....	0.925	23.5	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.60	751.9	29.98	761.4	87.3	30.7	.....	NE	.....	.....	3.5	.....	.....	.....	.....	.....	.....	Clear.	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deesa	29.07	738.4	29.64	750.4	79.7	26.5	93	Calm	.....	.....	.....	.....	10	.....	WNW	0.73	18.5	Drizzling	.....
Bombay	29.58	751.4	29.62	752.4	80.9	27.2	94	W	12	5.4	.....	.....	10	.....	SW	0.60	15.2	Overcast	.....
Poona	27.61	701.3	29.61	752.2	74.0	23.3	90	W	.....	.....	.....	.....	10	.....	W	0.24	6.1	Overcast	.....
Lahore	28.80	731.6	29.53	750.1	84.0	28.9	83	NE	1.6	0.7	.....	.....	6	.....	.....	2.50	63.5	D. clouds	.....
Belgaum	27.18	690.4	29.74	755.3	70.1	21.2	95	W	13	5.8	.....	.....	10	.....	W	0.16	4.1	Raining	.....
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.64	727.4	29.51	749.6	87.2	30.7	71	E	3.8	1.7	.....	.....	5	.....	.....	0.16	4.1	.....	.....
Agra	28.92	734.5	29.47	748.4	90.2	32.3	72	E	8	3.6	.....	.....	.....	.....	E	0	0	.....	.....
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.44	722.4	29.48	748.7	77.6	25.3	91	W	5.5	2.5	.....	.....	9	.....	SE	0.42	10.7	Gloomy	.....
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allahabad	29.15	740.3	29.45	748.0	87.2	30.7	85	NE	4.5	2.0	.....	.....	9	.....	E	0.03	0.8	Thunder	.....
Patna	29.34	745.4	29.52	749.1	85.6	29.8	79	E	2.8	1.2	.....	.....	8	E	E	0.01	0.3	D. clouds	.....
Hazaribagh	27.50	698.4	29.40	749.0	77.3	25.2	88	E	14.7	6.6	.....	.....	10	.....	E	0.28	7.1	Showery	.....
Cuttack	29.43	747.5	29.51	749.5	83.0	28.3	81	SSW	3.3	1.5	.....	.....	10	.....	.....	0.72	18.3	Showery	.....
Calcutta (Alipore)	29.54	750.2	29.56	750.8	81.8	27.7	91	SSE	4	1.8	.....	.....	10	E	E	0	0	Overcast	.....
Goalpara	29.26	743.1	29.64	752.9	81.8	27.7	96	ESE	4.4	2.0	.....	.....	10	.....	.....	0	0	Overcast	.....
Chittagong	29.59	751.5	29.68	753.8	80.4	26.9	93	SSE	6.2	2.8	.....	.....	10	.....	.....	.....	.....	Raining	.....
Sibsagar	29.28	743.7	29.61	752.1	88.5	31.4	78	S	1.7	0.8	.....	.....	10	W	W	0.02	0.5	Threatening	.....
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.10	713.8	29.43	747.6	85.8	29.9	73	E	4.0	1.8	.....	.....	10	.....	.....	0	0	Overcast	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft.. or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.3	30.01	762.3	71.6	22.0	78	S	4.9	2.2	.....	.....	10	.....	.....	0.008	0.2	.....	Prof. Giovanni Clodig.
Padua	29.85	758.3	29.96	761.0	75.6	24.2	79	N	0	0	.....	.....	9	NE	.....	0.102	2.6	.....	Prof. Dott. Lorenzoni
Vicenza	29.78	756.5	29.97	761.1	75.9	24.4	68	SE	1.8	0.8	.....	.....	4	W	.....	0.142	3.6	.....	Conte Alm. Da Schio.
Bergamo	28.64	727.5	29.91	759.7	73.8	23.2	58	NNE	.....	.....	2	.....	4	.....	.....	1.095	27.8	.....	Prof. Trionfini Carlo.
Milan	29.46	748.2	29.96	760.9	79.2	26.2	67	NE	.....	.....	2	.....	3	WNW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.09	738.9	29.97	761.1	77.0	25.0	68	SSW	1.3	0.6	.....	.....	3	W	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.10	713.8	29.94	760.4	75.7	24.3	60	NW	.....	.....	4	.....	8	E	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.77	756.2	29.98	761.6	79.0	26.1	72	ESE	.....	.....	2	.....	4	NE	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.81	757.2	29.97	761.3	80.8	27.1	65	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.65	753.2	29.96	761.0	79.0	26.1	62	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.72	754.8	29.97	761.1	87.8	31.0	40	S	.....	.....	2	.....	9	.....	.....	0.012	0.3	.....	Cav. F. Meucci.
Leghorn	29.87	758.7	29.95	760.8	80.4	26.9	75	S	13.7	6.1	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.90	759.4	29.95	760.6	84.2	29.0	49	S	.....	.....	.....	.....	8	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.48	723.3	29.98	761.4	78.1	25.6	48	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Naples, O. U	29.84	757.8	30.00	762.1	86.0	30.0	39	S	11.9	5.3	.....	.....	6	.....	.....	0.012	0.3	.....	Prof. P. G. S. Ferrari.
Lecce	29.84	757.8	30.03	762.7	82.8	28.2	54	SW	.....	.....	6	.....	8	NW	.....	0	0	.....	Prof. L. Palmieri.
Cagliari	29.76	756.0	30.01	762.2	84.7	29.3	38	NNW	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.75	755.6	29.93	760.3	83.1	28.4	72	S	.....	.....	4	.....	0	.....	.....	0.028	0.7	.....	Prof. A. Pacinotti.
Palermo	29.14	740.2	29.98	761.6	90.7	32.6	58	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Syracuse	29.76	755.8	30.00	762.0	83.3	28.5	56	E	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
	29.95	760.6	30.02	762.5	87.8	31.0	43	SW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.49	749.1	30.05	763.2	80.1	26.7	58	WSW	4.3	1.9	.....	.....	4	W	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.67	753.6	29.87	758.7	79.4	26.3	87	SW	4.5	2.0	.....	.....	8ck;ks	.....	W	0	0	Cloudy.....	
Tokei (Yeddo) Observatory	29.73	755.1	29.80	756.9	66.1	18.9	97	NE	13.1	5.9	.....	.....	10n;ks	.....	.....	0.690	17.53	Light rain...	I. Arai, Director.
Tokei (Yeddo) University	29.64	752.8	29.74	755.3	66.2	19	97	NE	8	3.6	.....	.....	10n	.....	.....	0.44	11.2	Raining.....	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Castillo, A. E.
Guadalajara	.....	.....	.....	.....	65.3	18.5	76	N	0.9	0.4	.....	4ck	5s	E	.....	0.58	14.6	Cloudy.....	Prof. L. Perez.
Guanajuato	25.04	636.4	30.00	761.9	59.4	15.2	91	NE	0.9	0.4	.....	5	0	SE	.....	1.20	30.4	½ cloudy.....	Prof. V. Fernandez
Leon	23.71	602.3	29.85	758.3	64.9	18.3	83	Calm	0	0	.....	0	10	.....	.....	0	0	Covered...	Prof. M. Leal.
Mexico	24.42	620.3	29.93	760.2	65.5	18.6	81	SE	0.9	0.4	.....	2c	1ks	NE	.....	0	0	Clear.....	Central Observatory.
Orizaba	23.11	587.1	30.11	764.8	55.8	13.2	90	Calm	0	0	.....	0	2c	.....	.....	0	0	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, M. E
Puebla	.....	.....	.....	.....	64.8	18.2	83	Calm	0	0	.....	0	8ks	.....	NE	0.07	1.7	Cloudy.....	Prof. B. Gonzalez.
Toluca	23.37	593.6	30.03	762.6	53.4	11.9	87	ENE	3.4	1.5	.....	0	4k	.....	.....	0.02	0.6	½ cloudy.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	29.92	760.0	29.93	760.3	77.0	25.0	91	SW	5.1	2.3	.....	10cs	0	.....	.....	0.24	6.0	Covered.....	G. Barroeta, M. D.
Vera-Cruz	24.27	615.6	30.10	764.5	64.0	17.8	82	SE	0.9	0.4	.....	3	5	W	ESE	0.04	1.0	Cloudy.....	Prof. J. Rossell.
Zacatecas	29.96	760.9	29.99	761.6	79.7	26.5	84	NW	0.4	0.2	.....	3c	6sk	.....	.....	0.04	1.0	Cloudy.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	.....	.....	.....	.....	59.0	15.0	88	NE	1.8	0.8	.....	2	8	.....	.....	0	0	Covered.....	M. Tena, F.L. Paramo,
Morelia	23.25	590.5	29.98	761.5	53.6	12.0	83	ENE	1.8	0.8	.....	0	2	.....	.....	0.11	2.8	Foggy.....	M. V. de Leon, C. E.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
San Juan E. Michapam	28.35	720.1	29.97	761.2	79.5	26.4	81	SE	1.8	0.8	.....	2	3	N	E	2.40	61.0	½ cloudy.....	
.....	29.72	754.9	29.87	758.6	77.2	25.1	.....	Calm	0	0	.....	10cs	0	S	.....	0.41	10.3	Covered.....	

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,361.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.92	760.0	29.92	760.0	71.1	21.7	.....	W	.....	.....	4	.....	.....	.....	.....	0.126	3.2	.....	
Groningen	29.82	757.5	29.88	758.9	72.7	22.6	.....	SW	.....	.....	2	.....	.....	.....	.....	0.717	18.2	.....	
Helder	29.87	758.8	29.87	758.8	69.1	20.6	.....	SSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.82	757.5	29.82	757.5	72.5	22.5	70	WSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.87	758.8	29.92	760.0	75.7	24.3	60	WSW	.....	.....	4	.....	5	.....	.....	0.406	10.3	Cloudy.....	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the cooperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.82	757.4	29.87	758.8	77.7	25.4	45	S	5.4	2.4	.....	.....	3	.....	.....	0	0	.....	
Bróno	29.94	760.5	29.98	761.5	62.6	17.0	52	N	9	4	.....	.....	3	.....	.....	0	0	.....	
Christiania	29.83	757.6	29.97	761.1	81.3	27.4	34	WSW	4	2	.....	.....	6	.....	.....	0	0	.....	
Tromsö	30.01	763.0	30.08	764.1	52.2	11.2	61	NE	4	2	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.90	759.5	30.09	764.3	71.1	21.7	82	SW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.2	30.05	763.2	80.2	26.8	31	ESE	3.8	1.7	.....	.....	3	SW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	763.0	30.13	765.2	76.1	24.5	67	SW	13.0	5.8	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.75	755.7	30.11	764.7	72.9	22.7	62	ESE	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.06	763.4	30.12	765.1	78.1	25.6	55	S	1.8	0.8	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 55′, W. 21° 02′	.....	.....	30.04	763.0	70.7	21.5	.....	NNW	.....	.....	6	.....	8	.....	NNW	5	.....	D. clouds.....	A. M. de Sande, Com'd. A. D. Pedroso, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	30.00	762.0	77.9	25.5	.....	SSE	.....	.....	3	.....	1	.....	SSE	2	.....	Blue sky.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.02	762.4	59.9	15.5	.....	WSW	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky.....	A. J. de Mattos, Com'd't J. T. d'Oliveria, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sado, N. 16° 07′, W. 23° 0′	.....	.....	30.02	762.4	85.8	29.9	.....	NE	.....	.....	2	.....	2	.....	WNW	2	NE	D. clouds.....	L. Ribeiro do Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.99	761.7	71.4	21.9	.....	WNW	.....	.....	1	.....	9	.....	NW	1	.....	D. clouds....	F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.53	750.0	29.93	760.1	80.6	27.0	42	E	2	1	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.60	751.8	30.00	762.0	73.2	22.9	38	WNW	2	1	.....	.....	2	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.87	758.6	30.11	764.7	59.5	15.3	49	N	9	4	.....	.....	3cks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.08	763.9	30.09	764 3	54.7	12.6	52	N	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Central Physical Obs. Ch. Forsten.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7k	.....	.....	.....	.....	.....	Physical Cabinet.
Kieff	29.34	745.3	29.95	760.6	76.8	24.9	36	SSE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Nikolaiev	30.01	762 3	30.08	764.1	75.6	24.2	39	NNE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Kerich	30.05	763.2	30.07	763.7	68.4	20.2	63	NNE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.37	746.0	29.92	759.9	54.5	12.5	59	N	13	6	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.79	756.7	29.99	761.8	68.7	20.4	40	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Ogorodnikof.
Archangel	29.92	760.0	29.94	760.5	48.0	8.9	87	N	18	8	.....	.....	10	.....	.....	.....	.....	.....	Physical Observatory
Tiflis	28 48	723.3	29.83	757.7	75.4	24.1	71	NW	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Sebastianof.
Astrakhan	29.97	761.3	29.89	759.2	75.4	24.1	35	N	7	3	.....	.....	8cs;s	.....	.....	.....	.....	.....	Cand. Fatjanow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kasan	29.43	747.6	29.70	754.3	58.6	14.8	50	WSW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Tschernischef.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Ekaterinburg	28.50	723.9	29.43	747.5	47.8	8.8	78	WNW	18	8	.....	.....	10	.....	.....	.....	.....	.....	
Nukuss	29.36	745.7	29.58	751.2	92.7	33.7	39	NNW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Bobrof.
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Michelson.
Tashkend	28.01	711 5	29.57	751.0	92.8	33.8	42	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Barnaul	29.15	740.4	29.63	752.7	82.6	28.1	40	NE	0	0	.....	.....	4	.....	.....	.....	.....	Light clouds	Marks.
Yeniseisk	29.53	750.1	29.81	757.1	70.5	21.4	67	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Usolzef.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Peking, (China)	29.60	751.9	29.74	755.5	76.6	24.8	96	Calm	0	0	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.92	759.9	30.02	762.5	82.4	28	62	SE	1.6	0.72	.....	.....	2k	.....	.....	0	0	Clear.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.06	763.5	30.11	764.9	75.7	24.3	69	NW	2.0	0.88	.....	.....	10	.....	.....	0.276	7.0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.1	.....	.....	70.7	21.5	61	NW	5.1	2.28	.....	.....	10	.....	.....	0	0	Covered	Domingo Martin y Perez.
Madrid, Royal Observatory	27.86	707.6	29.97	761.3	82.8	28.2	33	S	1.5	0.67	.....	0	9	.....	.....	0	0	Almost cov..	The Staff.
Murcia, Met. Obs'y	29.81	757.2	29.95	760.8	96.4	35.8	33	ESE	3.4	1.53	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.18	741.2	30.05	763.3	72.5	22.5	59	WNW	4.1	1.83	.....	.....	5	.....	.....	0.110	2.8	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.96	761.1	30.03	762.7	78.2	25.7	88	Calm	0	0	.....	1c	0	NE	.....	0.425	10.8	Clear.....	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.*
San Fernando, Naval Obs'y	29.97	761.3	30.07	763.7	76.8	24.9	63	W	18.3	8.2	.....	0	0?	.....	WNW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.6	30.04	762.9	83.5	28.6	85	NE	2.4	1.08	.....	2c	3k	NE	NE	0	0	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.15	765.7	30.19	766.7	56.1	13.4	.....	SW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	30.21	767.3	30.26	768.6	59.4	15.2	54	S	.....	.....	2	.....	6	.....	.....	0	0	.....	
Hernosand	30.11	764.8	30.16	766.1	62.2	16.8	59	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.96	760.9	30.13	765.4	68.0	20 0	49	ESE	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	25.98	761.6	30.04	763.1	72.0	22.0	47	ESE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.02	762.5	30.10	764.4	74.1	23.4	36	ESE	8.5	3.8	.....	.....	0	.....	.....	0	0	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.65	727.6	30.00	762 1	77.9	25.5	51	WSW	.....	.....	2	.....	4	.....	.....	.....	.....	.....	
Zurich	28.45	722 5	30.02	762.5	73.8	23.2	66	W	.....	.....	1	.....	5	.....	.....	0.532	13.5	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.039	1.0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.2 mm.; Thermometer, +3.2 cent.; Relative Humidity, —2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.03	762.7	75.6	24.2	66	NE	16	7.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.2	82.0	27.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.65	753.1	29.76	755.9	91.9	33.3	54	WSW	.....	.....	1	.....	3k	.....	SW	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, that the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.66	753.4	29.73	755.1	64.1	17.8	93	SE	8	3.6	.....	.....	10n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.40	746.7	29.69	754.1	66	18.9	.....	Calm	0	0	.....	.....	8s	.....	NW	0.63	16.0	Cloudy.....	W. R. Rigg.
*Chatham, N B	29.64	752.8	29.74	755.4	63	17.2	97	E	2	0.9	.....	.....	10n	.....	NE	0.01	0.3	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.70	754.4	29.74	755.4	66	18.9	90	E	14	6.3	.....	.....	8s	.....	E	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.48	748.8	29.67	753.6	62.7	17.1	92	NW	.....	.....	1	.....	10n	.....	.....	0.260	6.60	Thunder-storm.	James Smith, M. A
Dalhoussie, N. B	29.58	751.3	29.74	755.4	60	15.6	100	E	.....	.....	4	.....	.....	.....	.....	0.22	5.6	Drizzling.....	H. A. Johnson.
Esquimault, B. C.	.....	.....	.....	.....	52.2	11.2	94	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear.....	W. H. Bevis.
*Father Point, Quebec	29.63	752.6	29.65	753.1	50	10.0	89	Calm	0	0	.....	.....	10n	.....	S	0.12	3.0	Light rain...	J. McWilliams.
Fredericton, N. B	29.63	752.6	29.69	754.1	64.1	17.8	94	S	9	4.0	.....	.....	10n	.....	.....	1.24	31.5	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	28.87	733.3	29.66	753.4	65	18.3	97	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	28.78	731.0	29.85	758 2	65	18.3	89	NW	.....	.....	1	1ks	0	.....	.....	.....	.....	.....	H. Allison, M. A.
Hamilton, Ontario	29.54	750.3	29.67	753.6	65	18.3	96	E	12	5.4	.....	.....	10n	.....	.....	0.246	6.25	Light rain...	Geo. Dickson, M. A.
Heart's Content, N. F	29.47	748.5	29.82	757.4	66.3	19.1	79	NW	.....	.....	3	0	0	.....	.....	0	0	Clear.....	E. Weedon.
*Kingston, Ontario	29.99	761.7	30.01	762.2	63	17.2	83	NW	.....	.....	1	.....	10	.....	.....	0	0	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.39	746.5	29.71	754.6	65	18.3	89	NW	4	1.8	.....	.....	10ks	.....	NW	0.62	15.7	Cloudy.....	C. H. Rigby.
*Montreal, Quebec	29.76	755.9	29.80	756.9	59.0	15 0	.....	SE	8	3.6	.....	.....	10n	.....	.....	.....	.....	Raining.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.46	748.3	29.65	753.1	66	18.9	83	S	4	1.8	.....	2ck	5cs	N	.....	0.70	17.8	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.80	756.9	63	17.2	91	N	9	4.0	.....	0	0	.....	.....	0.01	0.3	Clear.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.02	737.1	29.74	755.4	69.2	20.7	77	W	.....	.....	4	5k	0	.....	.....	0.63	16.0	Fine.....	H. Morgan.
Port Hastings, N. S	29.17	740.9	29.84	757.9	64	17.8	83	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	M. Payne.
Port Stanley, Ontario	29.71	754.6	29.76	755.9	61.5	16.4	.....	S	10	4.5	.....	.....	.....	.....	.....	0	0	Foggy.....	Capt. Ashe, R. N
*Quebec, Quebec	29.25	742.9	29.87	758.7	67	19.4	76	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	W. H. McIntyre.
*Rockliffe, Ontario	29.33	745.0	29.63	752.6	63	17.2	94	S	.....	.....	1	.....	5ks	S	0.61	15.5	Fair.....	Dr. Gove.
St. Andrews, N. B	29.29	744.0	29.73	755.1	64	17.8	83	NW	8	3.6	.....	.....	5s	NW	0.11	2.8	Fair.....	G. Murdock, C. E.
St. John, N. B	29.62	752.3	29.67	753.6	59	15.0	99	Calm	0	0	.....	.....	10n	.....	.....	0.31	7.9	Light rain...	K. Stewart.
*Saugeen, Ontario	29.54	750.3	29.69	754.1	65	18.3	89	E	11	4.9	.....	.....	7ks	.....	.....	1.135	28.83	Fair.....	R. J. Cole.
Stayner, Ontario	29.15	740.4	29.83	757.7	67	19.4	75	NW	14	6.3	.....	8k	0	W	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
Stratford, Ontario	29.08	738.6	29.82	757.4	67	19.4	79	N	13	5 8	.....	.....	10n	.....	NW	0.01	0.3	Threatening	T. C. Hill.
*Sydney, C. B	29.60	751.8	29.83	757.7	62.9	17.2	89	NW	9	4.0	.....	1cs	2s	NW	.....	0	0	Clear.....	Magnetic Observatory.
*Toronto, Ontario	29.78	756.4	29.81	757.2	62	16.7	98	NE	10	4.5	.....	.....	10n	.....	.....	0.01	0.3	Light rain...	Prof. John E. Oram.
Windsor, N. S	29.43	747.5	29.80	756.9	66	18.9	80	NW	5	2.2	.....	0	0	.....	.....	0.84	21.3	Clear	J. Montgomery.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	58.0	14.4	100	E	.....	.....	.....	Fog	Fog	.....	.....	0	0	Foggy.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Low'r. 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Albany, New York	29.49	749.0	29.70	754.4	71	21.7	80	SW	1	0.4	.....	1k	0	W	.....	0.26	6.6	Clear	
Alpena, Michigan	29.23	742.4	29.85	758.2	65	18.3	73	NW	5	2.2	.....	2k	Haze	W	.....	0	0	Fair	
Atlantic City, New Jersey	29 77	756.1	29.79	756.7	70	21.1	90	W	12	5.4	.....	0	Haze	.....	Calm	0.23	5.8	Clear	
Augusta, Georgia	29.76	755.9	29.93	760.2	86	30.0	65	NW	2	0.9	.....	c	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.79	756.7	29.84	757.9	73	22.8	72	NW	10	4.5	.....	0	Sm'e	.....	Calm	0.71	18.0	Clear	
Barnegat, New Jersey	29.77	756.1	29.79	756.7	72	22.2	80	NW	13	5.8	.....	0	0	.....	.....	0.22	5.6	Clear	
Bismarck, Dakota	28.04	712.2	29.89	759.2	66	18.9	79	Calm	0	0	.....	0	5s	.....	W	0	0	Fair	
BoiseCity, Idaho	27.10	688.3	29.98	761.5	55	12.8	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.54	750.3	29.69	754.1	68	20.0	90	W	7	3.1	.....	5k	0	NW	.....	1.60	40.6	Fair	
Brackettville, Texas	28.82	732.0	29.80	756.9	78	25.6	82	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.89	733.5	29.74	755.4	69	20.6	92	N	2	0.9	.....	5ck	0	NW	.....	0.27	6.9	Fair	
Brownsville, Texas	29.91	759.7	29.98	761.5	85	29.4	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.13	739.9	29.80	756.9	67	19.4	79	W	10	4.5	.....	8k	1ks	W	W	1.00	25.4	Clearing	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	47	N	.....	.....	1	.....	10s	.....	N	0	0	Cloudy	
Burlington, Vermont	29.44	747.8	29.69	754.1	68	20.0	90	S	4	1.8	.....	2k	0	NW	.....	0.22	5.6	Fair	
Cairo, Illinois	29.58	751.3	29.95	760.7	78	25.6	82	S	2	0.9	.....	2ck	2a	NW	W	Inap.	Inap.	Light rain	
Camp Apache, Arizona	.....	.....	.....	.....	69	20.6	65	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	73	22.8	63	SE	.....	.....	1	.....	10s	.....	Calm	0.06	1.5	Cloudy	
Camp Verde, Arizona	26.75	679.4	30.23	767.8	80	26.7	59	SE	.....	.....	1	8c	0	Calm	.....	0	0	Cloudy	
Campo, California	27.38	695.4	29.95	760.7	60	15.6	88	Calm	.....	.....	0	8ck	0	Calm	.....	0	0	Cloudy	
Cape Hatteras, N. Carolina	29.89	759.2	29.90	759.4	80	26.7	91	SW	15	6.7	.....	0	2s	.....	SW	Inap.	Inap.	Fair	
Cape Henry, Virginia	29.84	757.9	29.86	758.4	77	25.0	86	SW	10	4.5	.....	5ss	0	SW	.....	0	0	Fair	
Cape Lookout, N. Carolina	29.88	758.9	29.90	759.4	81	27.2	91	SW	18	8.0	.....	5k	0	SW	.....	0	0	Fair	
Cape May, New Jersey	29.82	757.4	29.84	757.9	72	22.2	85	W	18	8.0	.....	0	0	.....	.....	0.85	21.6	Clear	
Castroville, Texas	29.18	741.2	29.85	758.2	80	26.7	82	Calm	0	0	.....	.....	10s	.....	SE	0	0	Cloudy	
Charleston, South Carolina	29.91	759.7	29.97	761.2	81	27.2	87	W	7	3.1	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	58	14.4	76	NW	4	1.8	.....	0	0	.....	.....	0.18	4.6	Clear	
Chicago, Illinois	29.23	742.4	29.88	758.9	73	22.8	59	S	6	2.7	.....	2cs	Sm'e	Calm	.....	0	0	Fair	
Cincinnati Ohio	29.39	741.2	29.92	760.0	73	22.8	63	NW	4	1.8	.....	0	Sm'e	.....	NW	0	0	Clear	
Cleveland, Ohio	29.20	741.7	29.88	758.9	73	22.8	55	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.12	739.6	29.92	760.0	67	19.4	74	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.68	713.2	29.68	753.9	71	21.7	85	Calm	0	0	.....	5k	0	E	.....	0	0	Fair	
Corsicana, Texas	29.51	749.5	29.95	761.0	77	25.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.29	744.0	29.90	759.4	72	22.2	85	Calm	0	0	.....	1c	Haze	Calm	Calm	0	0	Fair	
Denison, Texas	29.18	741.2	29.94	760.5	79	26.1	82	SW	1	0.4	.....	0	2s	.....	Calm	0	0	Fair	
Denver, Colorado	24.86	631.4	30.08	764.0	62	16.7	67	S	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear	
Des Moines, Iowa	29.04	737.6	29.87	758.7	76	24.4	64	Calm	.....	.....	0	5c	Haze	Calm	Calm	0	0	Fair	
Detroit, Michigan	29.25	742.9	29.89	759.2	66	18.9	69	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.39	695.7	29.53	750.0	78	25.6	69	S	8	3.6	.....	2ck	2ks	W	W	0	0	Fair	
Dubuque, Iowa	29.23	742.4	29.90	759.4	70	21.1	80	Calm	0	0	.....	10k	Fog	Calm	Calm	0	0	Cloudy	
Duluth, Minnesota	29.10	739.1	29.73	755.1	70	21.1	75	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Eagle Pass, Texas	29.22	742.2	29.92	760.0	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	Inap	Inap	Clear	
Eastport, Maine	29.59	751.6	29.65	753.1	57	13.9	100	E	9	4.0	.....	.....	10n;fg	.....	Calm	0.29	7.4	Light rain	
El Paso, Texas	.....	.....	.....	.....	85	29.4	44	W	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Erie, Pennsylvania	29.14	740.1	29.82	757.4	70	21.1	75	NW	6	2.7	.....	2k	0	.....	.....	0.11	2.8	Fair	
Escanaba, Michigan	29.22	742.2	29.85	758.2	65	18.3	73	N	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Florence, Arizona	.....	.....	.....	.....	85	29.4	61	Calm	.....	.....	0	5k	5s	SE	SE	0	0	Cloudy	
Fort Craig, New Mexico	25.55	649.0	29.61	752.1	70	21.1	72	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	73	22.8	59	NW	2	0.9	.....	5ck	0	SE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	76	24.4	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.71	729.2	29.94	760.2	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.82	757.4	79	26.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.92	760.0	29.96	761.0	83	28.3	87	S	3	1.3	.....	0	5ks	.....	NW	0.06	1.5	Fair	
Grand Haven, Michigan	29.27	743.4	29.88	758.9	73	22.8	76	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.19	741.4	29.93	760.2	70	21.1	75	NW	1	0.4	.....	2ck	0	NW	.....	0	0	Fair	
Indianola, Texas	29.95	760.7	29.97	761.2	81	27.2	78	SW	10	4.5	.....	0	9ks;n	.....	E;Calm	0	0	Threatening	
Jacksboro, Texas	28.84	732.5	29.91	759.7	80	26.7	74	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.95	760.7	29.98	761.5	83	28.3	79	SW	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.29	744.0	29.86	758.4	79	26.1	74	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	84	28.9	75	SE	3	1.3	.....	5c;k	1ks	Calm;SE	Calm	1.47	37.4	Fair	
Kittyhawk, North Carolina	29.83	757.7	29.85	758.2	80	26.7	78	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Knoxville, Tennessee	28.99	736.3	29.95	760.7	74	23.3	81	Calm	0	0	.....	1ck	0	NW	.....	0	0	Clear	
La Crosse, Wisconsin	29.14	740.1	29.84	757.9	68	20.0	84	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	71	21.7	71	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Laredo, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Lead City, Dakota	24.85	631.2	30.12	765.0	60	15.6	55	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.08	738.6	29.87	758.7	79	26.1	78	SW	5	2.2	.....	5ck	0	NW	.....	0	0	Fair	
Los Angeles, California	29.50	749.3	29.83	757.7	69	15.6	85	Calm	0	0	.....	1c	2s	Calm	SW	0	0	Fair	
Louisville, Kentucky	29.40	746.7	29.93	760.2	75	23.9	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lynchburg, Virginia	29.22	742.2	29.86	758.4	80	26.7	65	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.14	740.1	29.80	756.9	67	19.4	64	S	4	1.8	.....	5ck	0	SE	.....	0	0	Fair	
Mason, Texas	28.36	720.3	30.02	762.5	77	25.0	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.68	753.9	29.98	761.5	79	26.1	78	N	1	0 4	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.19	741.4	29.88	758.9	70	21.1	75	SW	9	4.0	.....	5cs	0	.....	.....	0	0	Fair	
Mobile, Alabama	29.94	760.5	29.99	761.7	79	26.1	82	S	4	1.8	.....	1k	Haze	Calm	.....	0.47	11.9	Clear	
Montgomery, Alabama	29.74	755.4	29.96	761.0	80	26.7	78	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.89	733.8	29.90	759.4	66	18.9	84	S	1	0.4	.....	.....	Fog	.....	Calm	0.25	6.3	Foggy	
Mt. Washington, N. H.	23.60	599.4	29.96	761.0	45	7.2	100	NW	31	13.9	.....	.....	Fog	.....	NW	1.33	33.8	Foggy	
Nashville, Tennessee	29.41	747.8	29.95	760.7	81	27.2	70	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.64	752.8	29.74	755.4	74	23.3	72	NW	5	2.2	.....	0	0	.....	.....	0.25	6.3	Clear	
New London, Connecticut	29.69	754.1	29.73	755.1	74	23.3	76	W	4	1.8	.....	0	0	.....	.....	0.01	1.0	Clear	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	80	26.7	87	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.66	753.4	29.71	754.6	70	21.1	80	W	8	3.6	.....	1k	0	SW	.....	Inap	Inap.	Clear	
New York, New York	29.62	752.3	29.78	756.4	69	20.6	79	NW	8	3.6	.....	0	Haze	.....	Calm	0.90	22.9	Clear	
Norfolk, Virginia	29.80	756.9	29.84	758.4	81	27.2	78	W	7	3.1	.....	0	2s	.....	W	0	0	Fair	
North Platte, Nebraska	27.02	686.3	29.46	748 3	70	21.1	90	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.93	760.2	29.97	761.2	49	9.4	96	E	1	0.4	.....	2c	Fog	Calm	Calm	0	0	Fair	
Omaha, Nebraska	28.76	730.5	29.76	755.9	80	26.7	74	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.46	748.3	29.76	755.9	69	20.6	85	NW	10	4.5	.....	0	2ks	.....	NW	0.33	8.4	Fair	
Pembina, Dakota	28.89	733.8	29.68	753.9	61	16.1	94	SE	3	1.3	.....	0	0	.....	.....	0.58	14.7	Clear	
Philadelphia, Pennsylvania	29.76	755.9	29.81	757.2	71	21.7	75	NW	17	7.6	.....	0	Haze	.....	Calm	0.36	9.1	Clear	
Phœnix, Arizona	28.73	729.7	.....	.....	80	26.7	82	SE	.....	.....	1	8c	0	Calm	.....	0.10	2.5	Fair	
Pike's Peak, Colorado	18.14	460.8	30.35	770.9	40	4.4	56	E	12	5.4	.....	0	0	.....	.....	0.60	15.2	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	70	21.1	32	S	6	2.7	.....	2c	0	S	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.10	739.1	29.88	758.9	64	17.8	89	NW	1	0.4	.....	0	0	.....	.....	0.81	20.6	Clear	
Port Huron, Michigan	29.23	742.4	29.86	758.4	66	18.9	74	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.58	751.3	29.63	752.6	64	17.8	94	NW	3	1.3	.....	8k	Fog	Calm	NW	0.16	4.1	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Oregon	29.92	760.0	30.03	762.7	50	10.0	86	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Prescott, Arizona	24.90	632.4	30.26	768.6	74	23.3	55	SE	.....	.....	1	0	2s	.....	Calm	0	0	Fair	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	84	28.9	79	SW	5	2.2	.....	5k	0	SW	.....	0.02	0.5	Fair	
Red Bluff, California	29.48	748.8	29.82	757.4	69	20.6	47	N	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.18	741.2	29.77	756.1	67	19.4	74	W	7	3.1	.....	8k	0	W	.....	0.09	2.3	Cloudy	
Roseburg, Oregon	29.48	748.8	30.05	763.3	47.5	8.6	88	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.76	755.9	29.84	757.9	60	15.6	65	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.39	746.5	29.93	760.2	78	25.6	73	N	2	0.9	.....	0	0	.....	.....	0.21	5.3	Clear	
St. Marks, Florida	29.95	760.7	29.96	761.0	77	25.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.99	736.3	29.77	756.1	71	21.7	78	SW	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	73	22.8	55	S	8	3.6	.....	2k	5n	S	S	0.09	2.3	Light rain	
San Antonio, Texas	29.25	742.9	29.81	757.2	77	25.0	91	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.78	756.4	29.85	758.2	63	17.2	89	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.31	744.5	29.95	760.7	73	22.8	59	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.75	755.6	29.78	756.4	73	22.8	76	NW	13	5.8	.....	0	0	.....	.....	1.92	48.8	Clear	
San Francisco, California	29.84	757.9	29.90	759.4	55	12.8	84	SW	7	3.1	.....	0	Fog	.....	SW	0	0	Fair	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	63	17.2	52	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.86	758.4	29.95	760.7	86	30.0	76	W	6	2.7	.....	0	0	.....	.....	0.22	5.6	Clear	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.34	618.2	.....	.....	69	20.6	84	S	3	1.3	.....	2k	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	29.89	759.2	29.93	760.2	79	26.1	87	W	4	1.8	.....	1cs	0	Calm	.....	0	0	Clear	
Springfield, Massachusetts	29.53	750.0	29.65	753.1	75	23.9	72	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	26.93	684.0	29.93	760.2	72	22.2	37	SE	10	4.5	.....	0	0	.....	.....	0.32	8.1	Clear	
Thatcher's Island, Mass	29.62	752.3	29.67	753.6	64	17.8	100	NW	8	3.6	.....	.....	Fog	.....	Calm	0.59	15.0	Foggy	
Toledo, Ohio	29.26	743.2	29.90	759.4	72	22.2	62	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Tucson, Arizona	27.31	693.7	29.86	758.4	81	27.2	78	Calm	0	0	.....	.....	10s	.....	Calm	0.22	5.6	Cloudy	
Tybee Island, Georgia	29.93	760.2	29.96	761.0	82	27.8	83	W	4	1.8	.....	0	0	.....	.....	1.23	31.2	Clear	
Umatilla, Oregon	29.60	751.8	.....	.....	50	10.0	39	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.75	755.6	30.00	762.0	83	28.3	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.31	617.5	29.79	756.7	60	15.6	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.52	749.8	29.86	758.4	63	17.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.76	755.9	29.88	758.9	72	22.2	80	NW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	81	27.2	70	E	.....	.....	1	.....	10n	.....	Calm	1.10	27.9	Clear	
Wilmington, N. Carolina	29.84	757.9	29.91	759.7	80	26.7	82	W	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Cloudy	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	51	10.6	34	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.66	753.4	29.71	754.6	72	22.2	80	NW	8	3.6	.....	Haze	5ks	Calm	NW	0	0	Clear	
Yankton, Dakota	28.57	725.7	29.77	756.1	75	23.9	86	SE	2	0.9	.....	0	0	.....	.....	0.01	0.3	Fair	
Yuma, Arizona	29.63	752.6	29.79	756.7	89	31.7	55	S	10	4.5	.....	.....	10ks	.....	Calm	0	0	Clear	
SUB-SERIES.																		Cloudy	
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba, W. I	29.77	756.1	29.82	757.4	57.5	14.2	94	NW	7	3.1	.....	2c	0	N	.....	0.10	2.5	Fair	J. Fortescue, W. Wood.
St. Thomas	29.99	761.7	30.01	762.2	81	27.2	82	Calm	0	0	.....	2c	0	Calm	.....	0.73	18.5	Fair	Chas. Hasselbrink.
Kingston, Jamaica, W. I	.....	.....	.....	.....	81	27.2	83	E	3	1.3	.....	2c	2n	SE	.....	0.45	11.4	Cloudy	G. O. Gellich.
Navassa, W. I	30.08	764.0	30.09	764.3	82	27.8	83	Calm	0	0	.....	2c	2s	Calm	SE	0	0	.....	James Gall.
Paramaribo, D. Guiana, S. A	29.88	758.9	29.96	761.0	85	29.4	.....	E	11.7	5.2	.....	.....	.....	.....	.....	Inap.	Inap.	Fair	F. M. Everett.
Batavia, Dutch Guiana, S. A	30.04	763.0	30.04	763.0	78	25.6	91	SE	.....	.....	2	5k	5ks	E	.....	0.820	20.83	½ Cloudy	C. J. Hering.
Medellin, Colombia, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
	25.24	641.1	.....	.....	67.8	19.9	78	SW	1	0.4	.....	3cs	2ks	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 1,7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,822 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,109 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,848 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,538 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.10	764.5	81	27.2	81	27.2	67	Calm	0	0	....	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	29.94‡	760.5‡	.....	.....	61	16.1	100	W	.....	.....	1	.....	5	.....	.....	0.3	8.	.....	.....	Clear.	
Naval Hospital, Yokohama,Japan.....	29.79*	756.7*	73	22.8	68.9	20.5	95	E	.....	.....	5	.....	10n	....	E	0.75	19.1	.....	.....	Threatening	
Adams. Samoan Islands.....	30.05	763.3	80	26.7	80	26.7	91	E	.....	.....	2	.....	2	.....	E	.....	.....	.....	.....	Pleasant... ..	
Alliance. Cherbourg, France..	29.92‡	760.0‡	.....	.....	69	20.6	75	W	.....	.....	5–6	.....	7	.....	W	.....	.....	.....	.....	Cloudy..... .	
Ashuelot. N. 33° 09′ E. 129° 21′.....	29.95	760.7	84	28.9	82	27.8	96	WNW	.....	.....	2	.....	2	.....	ESE	.....	.....	.....	.....	Clear	
Canonicus, New Orleans, La.....	30.01	762.2	57	13.9	80	26.7	87	S	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	Clear	
Colorado. New York, N. Y.....	29.73‡	755.1‡	.....	.....	69	20.6	80	NW	13	5.8	.....	.....	5	.....	WNW	1.07	27.2	.....	.....	Light fog....	
Constitution, Havre, France.....	29.93‡	760.2‡	.....	.....	68	20.0	74	W	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Despatch, Volo, Turkey	30.01‡	762.2‡	.....	.....	81	27.2	62	SSE	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.....	29.99	761.7	79	26.1	79	26.1	91	WSW	10	4.5	.....	.....	5	.....	NW	.....	.....	.....	.....	Light rain...	
Gettysburg Villefranche, France.....	29.89‡	759.2‡	.....	.....	82	27.8	91	S	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil ...	30.31	769.9	.....	.....	75	23.9	64	NNW	0.6	0.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	30.00	762.0	78	25.6	80	26.7	70	S	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Portage Lake, Mich.....	29.32	744.7	69	20.6	63	17.2	83	NW	.....	.....	1	....	10	.....	NW	.....	.....	.....	.....	Cloudy.....	
Monocacy. Yokohama, Japan	29.74‡	755.4‡	.....	.....	69	20.6	??	NNE	.....	.....	2–5	.....	10	.....	NNE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.14†	765.5†	.....	.....	82	27.8	91	WSW	9	4.0	.....	.....	.....	.....	.....	0.3	8.	.....	.....	Clear.	
Onward, Callao, Peru.....	30.10†	764.5†	.....	.....	61	16.1	82	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty....	
Palos, Tientsin, China.....	29.85	758.2	82	27.8	80	26.7	87	N	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Mare Island, California	29.97	761.2	64	17.8	56	13.3	93	SSW	18	8.0	.....	.....	1	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y..... ...	29.77†‡	756.1†‡	.....	.....	69	20.6	85	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ranger. Macao, China.....	30.10	764.5	81	27.2	81	27.2	87	W	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas.....	29.90	759.4	81	27.2	81	27.2	87	ESE	.....	.....	1	.....	1	.....	Calm	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	29.82‡	757.4‡	.....	.....	77	25.0	73	NW	.....	.....	1	.....	8	.....	NW	0.70	17.8	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.78	756.4	73	22.8	72	22.2	85	NW	7	3.1	.....	.....	0	.....	.....	0.03	0.8	.....	.....	Clear.....	
Supply, Havre, France.....	30.00	762.0	68	20.0	69	20.6	75	NW	.....	.....	0–1	.....	2	.....	NW	.....	.....	.....	.....	Clear	
Swatara, Boston, Mass.....	29.64‡	752.8‡	.....	.....	67	19.4	95	W	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Rain & fog...	
Trenton, Cherbourg, France.....	29.88‡	758.9‡	.....	.....	69	20.6	80	W	.....	.....	3–4	.....	4	.....	S;W	0.2	5.	.....	.....	Fair.....	
Tuscarora. Acapulco, Mexico.....	29.71	754.6	79	26.1	79	26.1	86	NE	.....	.....	1–2	.....	10	.....	NE	0.75	19.1	.....	.....	Cloudy	
Vandalia, Naples, Italy.....	29.98‡	761.5‡	.....	.....	80	26.7	78	SW	.....	.....	2	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass.....	29.66‡	753.1‡	.....	.....	69	20.6	95	W	6	2.7	.....	.....	10	.....	W	1.22	31.0	.....	.....	Cloudy.....	
Wyoming, N. 41° 13′, W. 67° 00′.....	29.71†	754.6†	.....	.....	65	18.3	100	SW	.....	.....	4	.....	7	.....	.....	.....	.....	Smooth	.....	Foggy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			Capt. Berry.
S. S. China, N. 40° 22′, E. 160° 18′		29.94*	760.5*	62	16.7	94	SSE			3		6		SE	0	Mod'ate	SE	Fine	Capt. Cobb.
S. S. City of New York																			Capt. Seabury.
S. S. City of Panama																			Capt. Cavarly.
S. S. City of Peking, N. 34° 56′, E. 147° 47′		29.64†	752.8†	74	23.3	100	W	21	9.4			0			Mod'ate	Mod'ate	W	Blue sky	Capt. Dearborn.
S. S. City of Sydney																			Capt. Maury.
S. S. City of Tokio																			Capt. Searle.
S. S. Colima																			Capt. Whitebury.
S. S. Costa Rica																			Capt. Morse.
S. S. Dakota, Seattle, W. T.		29.97†	761.2†	57	13.9	81	Var.			2		1						Blue sky	Capt. Connolly.
S. S. Georgia																			Capt. Austin.
S. S. Grenada																			Capt. A. Fuller.
S. S. Wilmington, N. 37° 23′ W. 123° 26′		30.23‡	767.8‡	60	15.6	88	NW			6		1		NW	0	Rough	NW	Fine	Capt. Ghest.
S. S. Zelandia																			

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid. ‡Aneroid; corrected for elevation; instrumental error not known.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 42° 10′, W. 63° 11′		29.56*	750.8*	66	18.9	94	W			2		Fog		W	8 hours	None		Foggy	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, N. 40° 42′, W. 152° 09′		30.06*	763.5*	62	16.7	72	W			5		0		NW		Rough	NW	Showery	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 26° 07′, E. 122° 21′		29.81	757.2	80	26.7	100	SSE			4		4		SE		Smooth		D. clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 50° 39′, W. 0° 00′		29.88	758.9	64.5	18.1	89	SW			3		5		SW	0	0–1	SW	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana. N. 46° 9′, W. 38° 47′		29.93*	760.2*	71	21.7	90	NE			3		5		SW	Light	Mod'ate	NNE	Squally	Captain Sargent.
S. S. Ohio. N. 45° 56′, W. 54° 13′		29.93	760.2	61	16.1	94	SE			4		8		ESE	0	Small	ESE	Dull	Captain Morrison. Captain Harris.
S. S. Pennsylvania																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.29*	769.4*	50.8	10.4	65	Calm			0	0	0						Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'o, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 8, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			Dr. Olive.
Nemours			30.07	763.7	80.1	26.7	60	N			2		1						Kesxuche.
Algiers			30.02	762.5	84.2	29.0	79	NNE			3		7			0	0	Very fair	Tourillere.
La Calle			30.05	763.2	81.5	27.5	81	NE			4		4			0	0	Very cloudy	Foufrede.
Tunis			30.08	763.9												0	0	Cloudy	Jacques.
Sfax			30.14	765.5	89.6	32.0		SSE			3		0			0	0	Clear	Gau.
Saida			30.11	764.9	90.9	32.7	25	N			3		0			0	0	Clear	Herbin.
Tebessa			30.07	763.7	99.1	37.3		NW			2		1			Blank	Blank	Very fair	Watrin.
Geriville			30.16	766.1	95.0	35.0	25	WNW			9		5			0	0	Cloudy	Brugniaux.
Laghouat			30.10	764.4	100.4	38.0	25	NW			1		1			0	0	Very fair	Bertrand.
Biskra			29.99	761.8	106.7	41.5	23	NW			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.45	748.1	29.98	761.4	79.2	26.2	66	NW			3		6			0.134	3.4		Prof. Ivan Stozu
Cracow	29.20	741.7	29.93	760.2	69.8	21.0	79	W			1		9			0.231	5.87		Prof. Dr. Karlinski.
Eperies	29.11	739.5	29.96	760.9	72.7	22.6	79	Calm			0		10k;s			0.026	0.65		Julius Mikolik.
Gratz	28.78	731.1	29.99	761.7	72.3	22.4	69	W			3		7			0	0		Andreas Rospini.
Hermannstadt	28.54	725.0	29.88	759.0	79.7	26.5	51	W			3		6			0	0		Prof. Reissenberg
Kremsmünster	28.67	728.1	29.95	760.8	71.6	22.0	67	W			2		6			0.256	6.5		Prof. C. Wagner
Lemberg	28.96	735.6	29.91	759.6	74.3	23.5	60	S			1		7			0	0		Dr. T. Stanecki.
Pola	29.89	759.1	29.99	761.8	79.2	26.2	68	WNW			2		5ks			0	0		I.R.Hydrographic Office
Szathmar	29.51	749.5	29.95	760.7	79.3	26.3	62	W			3		7			0.197	5.0	Rainy	Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.91	759.8	30.02	762.4	80.6	27.0	63	Calm			0		3						P. Busin.
Vienna	29.31	744.5	30.01	762.3	65.5	18.6	90	WNW			1		10			0.508	12.9	Thunder-storm	I. R. Central Met. Obs'y.
																0.744	18.9		

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.67	728.2	30.13	765.2	71.6	22.0	91	W			1		6			0	0		Prof. M. Passau.
Brussels	29.91	759.6	30.10	764.5	72.3	22.4	58	WNW			3		5		WSW	0	0		Royal Observatory
Furnes	30.11	764.9	30.14	765.5	75.0	23.9	59	SSW			5		6			0	0		M. E. de Cae.
Maeseyck	30.00	762.0	30.13	765.2	73.9	23.3	65	SW			2		6			0	0		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.70	754.4	29.80	756.9	64.7	18.2	.....	S	6	2.7	.....	.....	6	.....	.....	0.035	0.89	Misty	W. Boswell.
Ardrossan	29.88	758.9	29.89	759.2	65	18.3	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds	George Carrick.
Armagh, Observatory	.....	.....	30.02	762.5	64.9	18.3	.....	W	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.00	762.0	66.0	18.9	.....	W	24	10.7	.....	.....	5	.....	.....	.....	.....	D. clouds	John Hartnup.
Birr Castle, (Parsonstown)	29.86	758.4	30.05	763.3	66.8	19.3	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.60	751.8	30.00	762.0	68.8	20.4	.....	W	.....	.....	4	.....	5	.....	.....	0.11	2.8	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	81.5	27.5	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.03	762.7	73.0	22.8	.....	W	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	H. Todd. [H. C.
Cardington	.....	.....	30.06	763.5	72.0	22.2	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.94	760.5	30.07	763.8	73.2	22.9	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.66	728.0	30.11	764.8	65.0	18.3	.....	SW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Alexander Watt. [Col. Martin, R. E.
Donaghadee	29.97	761.2	30.00	762 0	66	18.9	.....	NE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan. [tin, R. E.
Dover	30.08	764.0	30.11	764.8	66	18.9	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	¾ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	30.00	762.0	70.5	21.4	.....	W	8.8	3.9	.....	.....	5	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Falmouth, Observatory	29.93	760 2	30.15	765.8	71.6	22.0	.....	SW	.....	.....	2	.....	6	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.76	705.1	30.03	762.7	68.0	20.0	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	82	27.8	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	.....
Galway, Queen's College	.....	.....	30.01	762.2	65	18.3	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.00	762.0	30.05	763.3	75.0	23.9	.....	NE	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.70	754.4	29.90	759.4	62.3	16.8	.....	WNW	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	30.02	762.5	30.03	762.7	74	23.3	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Misty	G. T. Watson.
Greenwich, Royal Obs'y	29.91	759.7	30.07	763.8	77.8	25.4	.....	WSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.94	760.5	30.16	766.1	66	18.9	.....	WSW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.15	765.8	71	21.7	.....	SW	.....	.....	2	.....	2c	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	30.01	762.2	30.06	763.5	66	18.9	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.92	760.0	30.21	767.3	68.0	20.0	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	30.08	764.0	70.7	21.5	.....	W	13	5.8	.....	.....	7	.....	.....	.....	.....	Hazy	The Staff.
Kingstown	30.01	762.2	30.03	762.7	66	18.9	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	.....	.....	30.03	762.7	70.7	21.5	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	30.21	767.3	30.28	769.1	84	28.9	.....	SW	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. J. Becket, A. H. C.
Nairn	29.70	754.4	29.79	756.7	68	20.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	86.5	30.3	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.84	757.9	30.03	762.7	73.2	22.9	.....	WSW	.....	.....	3	.....	7k;d	.....	W	0.002	0.05	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.52	749.8	30.03	762.7	72.0	22.2	.....	SSW	.....	.....	5	.....	6	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.05	763 3	70	21.1	.....	W	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	H. E. Bellamy.
Plymouth	30.05	763.3	30.13	765.3	72.3	22.4	.....	SSW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	30.04	763.0	30.09	764.3	65	18.3	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.94	760.5	30.10	764.5	66	18.9	.....	WSW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.79	756.7	64	17.8	.....	SW	13	5.8	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.95	760.7	79.0	26.1	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. F. Cooper.
Silloth Rectory	29.92	760.0	29.95	760.7	71.8	22.1	66	SW	.....	.....	3	.....	5	.....	.....	0.040	1.02	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.62	752.3	30.02	762.5	64.8	18.2	.....	SW	.....	.....	4	.....	9	.....	.....	.....	.....	Threatening	W. C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	29.75	755.6	29.78	756.4	63	17.2	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	29.77	756.1	66	18.9	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	Showery	John Trotter.
Truro, Royal Institution	.....	.....	30.16	766.1	70	21.1	.....	NW	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	30.07	763.8	66.7	19.3	.....	SSW	16	7.2	.....	.....	8	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.22	742.2	55.0	12.8	100	NW	.....	.....	1	.....	10kn	.....	.....	0.27	6.9	Rainy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.5	73.4	23.0	68	E	18.0	8.0	.....	0	5	.....	E	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.39	746.5	29.48	748.8	61.2	16.2	56	N	29	13.0	.....	.....	6	.....	.....	0	0	.....	R. L. J. Ellery.
Monach Lt-House, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 50° 35′ W. 20° 5′	.....	.....	29.92	760.0	65	18.3	.....	SSE	.....	.....	1	.....	8	SSW	.....	.....	Smooth	D. clouds	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith, N. 51° 0′, W. 4° 50′	.....	.....	30.12	765.0	70	21.1	.....	SW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 42° 5′, W. 66° 5′	.....	.....	29.82	757.4	66	18.9	.....	W	.....	.....	4	.....	2	.....	.....	3	SW	Blue sky	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.23	666.2			67.1	19.5	93	SE			1	c	9s			0.4	10.		Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.97	761.1	30.01	762.3	66.9	19.4	83	SSE			2		4						
Fanöe	29.97	761.3	29.99	761.8	68.2	20.1	79	WSW			4		9						
Godthaab, (Greenland)	29.88	758.9	29.92	760.0	44.4	6.9	86	Calm			0		10						
Stykkisholm, (Iceland)	29 63	752.7	29.68	753.8	55.0	12.8	87	SE			6		8						
Thorshavn, (Faröe)	29.64	752.9	29.68	753.8	58.8	14.9	90	SW			2		10						
Vestervig	29.80	756.9	29.97	761.2	69.4	20.8	73	SW			4		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.71	754.6	30.26	768.6	68.4	20.2	67	W			1		5			0	0	Cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	30.00	762.1	30.08	764.1	80 2	26.8	50	N			2		2		W	0	0	Partly cl'dy	M. Girard, Director.
Bar-sur-Seine	29.07	753.5	30.21	767.2	73.6	23.1	47	N			1		5		NW	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			
Beauvais, Normal School	29.90	759.5	30.18	766.6	72.7	22.6	55	WNW			1		5		W	0.059	1.50	Cloudy	Albert Cheux.
Besançon	29.31	744.4	30.17	766.3	73.8	23.2	58	SW			6		2		SW	0	0	Slightly cl'dy	Frere Eugene Marie, Director.
Bourg-en-Bresse, N. School	29.28	743.6	30.21	767.3	76.5	24.7	66	W			1		2k		W	0	0	Slightly cl'dy	Normal School.
Bourges, Normal School	29.63	752.5	30.16	766.0	71.6	22	65	SW			1		5k		SW	0	0	Cloudy	M. Marlot, Director.
Brest, Naval Observatory	29.89	759.2	30.13	765.4	75.2	24.0	61	SW			2		2		SW	0	0		A. Wagner, Director.
Carcassonne, Normal School	29.67	753.5	30.06	763.5	78.8	26	62	N			2		2	S		0	0	Slightly cl'dy	The Staff.
Caen																			Septembre, Director.
Chartres, Normal School	29.55	750.6	30.10	764.4	80.6	27	90	SE			2		6		E	0.47	12.		Normal School.
Châlons-sur-Marne, N. Sch'l	29.83	757.7	30.14	765.5	74.3	23.6	66	W			2		5	W	W	0.236	6.0	Cloudy	M. Vergier, Director.
Clermont-Fd., Puy de D. Obs	28.84	732.4	30.15	765.8	72.1	22.3	64	NE			1				NW	0	0		T. Leloup, Director.
Commercy, Normal School	29.22	742.2	30.07	763.7	72.0	22.2	56	WSW			6		2km		WSW	0	0	Slightly cl'dy	Alluard, Director.
Commune de Gréasque*	28.99	736.3	30.13	765.3	82.9	28.3	35	NW			2		2		NW	0	0	¼ covered	Dr. Coulet, Director
Grenoble, Normal School																			M. Kina.
La Roche-sur-Yon, N. School	30.02	762.5	30.23	767.8	76.3	24.6	55	W			1		5		W	0.010	0.25	Cloudy	M. Ablard, Director.
Le Mans, Normal School	29.90	759.5	30.21	767.2	69.4	20.8	63	W			3		2		NW	0.20	5.	Slightly cl'dy	Mouillot, Director.
Lons-Le-Saulnier, N. School	29.26	743.2	30.14	765.5	78.3	25.7	46	W			2		5		W	0	0	Cloudy	Poirrier, Director.
Lorient, Naval Observatory																			Baudry, Director.
Mâcon, Normal School																			T. Carré, Director.
Mirecourt, Normal School					73.6	23.1	68	NW			1		5		NW	0	0	Cloudy	M. Galzin, Director.
Nismes, Normal School	29.13	739.8	30.14	765.5	72.3	22.4	55	NW			1		2ck		SW	0	0	Slightly cl'dy	M. Barbier, Director.
Orleans, Normal School	29.90	759.5	30.13	765.2	85.6	29.8	57	NE			2		2		N	0	0	Slightly cl'dy	Boyer, Director.
Paris, Observatory																			Bernard, Director.
Privas, Normal School																			National Observatory.
Puy de Dome (Summit)	29.10	739.1	30.12	765.1	78.4	25.8	43	N			4		n	N	N	0	0		M. Cantier.
Rochefort, Naval Obs'y	25.40	645.2			53.4	11.9	71	W			2				W	0	0		Alluard, Director.
Rouen, Normal School	30.19	766.9	30.23	767.7	79.9	26.6	40	W			3		0			0	0	Clear	M. Giguel, Director.
Saint Malo (Port)	30.09	764.2	30.17	766.3	75.7	24.3	58	WNW			1		0			0.024	0.6	Clear	F. Lucard, Director.
Tarbes, Normal School			30.19	766.8	65.8	18.8	67	NNE			3		1		NNW	0.137	3.47	Clear	M. H. Hercouet.
Villefranche, Normal School	29.09	738.8	30.15	765.8	64.4	18	80	W			1		10			0	0	Covered	T. Huguet, Director.
SUB-SERIES.	29.59	749.4	30.19	766.9	75.0	23.9	83	ESE			4		5		N	0	0	Cloudy	M. Gausserand, Director.
Fort de France, Martinique																			
Lyons	29.86	758.5	29.89	759.2	78.8	26										0.20	5.		L'Abbé Marchési.
Marseilles, Observatory			30.19	766.9	72.1	22.3	60						3			0.102	2.6		L. Jays.
Mont-Louis			30.04	763.1	84.7	29.3	39	W			2		4			0	0		The Staff.
Nice	25.01	635.2	30.28	769.2	64.4	18.0	59	ESE	7.4	3.33			3		S	0.358	9.1		M. Cave.
Paris, Montsouris Obs'y			30.08	763 9	78.4	25.8	80	S			1		4			0	0		Dr. A. Nieppe.
Perpignan	29.89	759.2	30.17	762.2	73.0	22.8	54	WNW			3		4		N	Inap	Inap.		Marie Davy, Director
Pic du Midi, (Summit,) H. P.			30.13	765.2	82.2	27.9	47	N	9.3	4.17			5		NW	0	0		Dr. Fines.
Pic du Midi, (Plantade,) H. P.																			M. Baylac.
Saint Maur, (near Paris)	22.75	577.9			67.0	13 9		W			2		8			0	0	Stormy	Gen'l de Nansou y
Toulouse, Observatory	30.01	762.2	30.17	766.4	74.7	23.7	55	W			1–2		5		W	0	0		E. Renou.
Tours	29.51	749.6	30.24	768.1	75.6	24.2	48	NNW			3		5			0	0		The Staff.
Versailles, (near Paris)	30.09	762.0	30.20	767 0	73.8	23.2	52	NW			1		6		NNW	0.028	0.7		C. Marquet.
Zi-Ka-Wei, (near Shanghai)			30.19	766.7	75.2	24.0	41	NW			1		8			0.002	0.05	Cloudy	Dr. A. Bérigny.
	29.70	754.4	29.73	755.1	82.4	28.0	92	SE	1.6	0.7		10ck				0	0	Covered	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.22	742.1	30.05	763.3	68.4	20.2	70	W			1		4	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.85	758.3	30.02	762.5	77.2	25.1	49	N			1		8			0	0		Prof. Arndt.
Breslau	29.52	749.7	30.05	763.2	67.6	19.8	84	N			2		10			0.373	9.47		Royal University Obs'y
Carlsruhe	29.71	754.6	30.12	765.1	74.1	23.4	64	SW			1		5			0.055	1.4		Albert Senz.
Cassel	29.47	748.4	30.04	763.0	72.7	22.6	89	E			2		8	W		0.345	8.74	Thunder-storm	Dr. H. Möhl.
Crefeld	29.91	759.8	30.08	763.9	78.4	25.8	48	S			4		4k			0	0		Director Lose.
Emden	29.91	759.8	29.95	760.8	73.8	23.2	63	W			1		4			0.016	0.4	Lightning	Prof. Prestel.
Frankfort on the Main	29.77	756.1	30.12	765.0	77.4	25.2		W			1		8			0.996	25.3		Physical Society.
Friedrichshafen	28.70	729.0	30.09	764.2	72.3	22.4	70	S			1		6	WNW		0.035	0.9	Thunder-storm	M. Wilhelm.
Hamburg	29.98	761.4	30.04	763.1	70.3	21.3	76	SE			1		8k			0.311	7.9	Thunder-storm	Captain F. Hegemann.
Kiel	30.00	761.9	30.01	762.3	72.9	22.7	59	W			2		4			0.048	1.22		Prof. G. Karsten.
Königsberg, (Prussia)	29.97	761.2	30.05	763.2	73.9	23.3	45	NE			3		2			0	0		Prof. E. Luther.
Köslin			30.02	762.6	66.7	19.3		Calm			0		5			0.035	0.9		H. Müller.
Leipsic, Observatory	29.65	753.1	30.06	763.5	67.8	19.9	86	SE			1		9			0.008	0.2	Thunder-storm	Prof. Bruhns.
Memel, Naval School	30.06	763.4	30.10	764.6	70.0	21.1	26	NE			1		4c						Reinbrecht and Skalweit.
Neufahrwasser	30.04	762.9	30.05	763.3	68.7	20.4	74	NE			3		7			0	0		A. Lothes.
Posen	29.78	756.5	30.06	763.5	71.2	21.8	58	NW			3		10			0.039	1.0		Dr. Magener.
Strassburg (in Alsace)	29.60	751.7	30.12	765.1	75.9	24.4	45	WNW			3		3	W		0.445	11.30		Astronomical Observatory.
Stuttgart	29.17	740.8	30.07	763.8	73.0	22.8	64	N					4	W		0.083	2.1		Prof. Schoder.
Treves, (Trier)	29.47	748.4	29.99	761.7	76.6	24.8	50	SW			2		4			0.013	0.34		Prof. Flesch.
Weissenburg, (Bavaria)	28.62	726.9	30.07	763.8	69.6	20.9	67	W	1.8	0.8			7kn		W	0	0		Dr. Von Bebber.
Wustrow, Naval School	30.04	762.9	30.08	763.9	67.3	19.6	83	WSW			2		4			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.59	751.5	29.96	761.0	88.3	31.3		SW			2.5		clk					Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee													10	WNW		1.91	48.5	Overcast	
Deesa	29.08	738.5	29.55	750.5	81.6	27.6	93	Calm					10	WSW		2.17	55.1	Overcast	
Bombay	29.64	752.7	29.67	753.7	81.1	27.3	92	WSW	17	7.6			10		WNW	0.16	4.1	Overcast	
Poona	27.67	702.9	29.68	753.8	74.4	23.6	81	WNW					8		W	0.21	5.3	Showery	
Lahore	28.94	735.1	29.66	753.4	92.1	33.4	69	SW	2.4	1.1			10		W	1.92	48.8	Raining	
Belgaum	27.24	692.0	29.81	757.1	68.9	20.5	95	W	15	6.7									
Bangalore													2			0.02	0.5		
Roorkee	28.61	726.6	29.47	748.6	91.8	33.2	61	E	2.3	1.0			3		E	0	0		
Agra	28.93	734.8	29.48	748.7	90.7	32.6	62	E											
Trichinopoly													9		E	0.12	3.0	Gloomy	
Nagpur	28.51	724.1	29.54	750.2	82.6	28.1	81	SW	9.7	4.3									
Madras																			
Lucknow													10	S		0.14	3.6	Overcast	
Allahabad	29.18	741.0	29.48	748.8	82.6	28.1	89	Calm	6.1	2.7			10	E	E	0.87	22.1	Drizzling	
Patna	29.36	745.7	29.54	750.2	83.8	28.8	94	E	4.3	1.9			10		E	0	0		
Hazaribagh	27.56	700.0	29.55	750.5	79.0	26.1	85	SE	12.7	5.7			6			0.03	0.8	D. clouds	
Cuttack	29.52	749.9	29.60	751.9	85.0	29.4	76	S	8.3	3.7			10	S		0	0	Overcast	
Calcutta (Alipore)	29.62	752.4	29.65	753.0	81.7	27.6	87	SSE	6.0	2.7			10			0.37	9.4	Overcast	
Goalpara	29.30	744.2	29.69	754.0	79.6	26.4	88	Calm	3.5	1.6			10			0	0	Overcast	
Chittagong	29.67	753.5	29.76	755.9	80.5	26.9	91	SE	8.4	3.8			10			0.13	3.3	D. clouds	
Sibsagar	29.32	744.7	29.65	753.1	84.5	29.2	81	NE	3.5	1.6									
Rangoon													10			0.89	22.6	Overcast	
Jubbulpore	28.10	713.9	29.46	748.2	78.8	26.0	89	SE	8.3	3.7									

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,969 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.64	752.8	30.03	762.8	78.1	25.6	55	Calm	0	0	.....	.....	5	.....	.....	0.29	7.5	.....	Prof. Giovanni Clodig.
Padua	29.91	759.8	30.02	762.5	79.5	26.4	55	NNE	3.1	1.4	.....	.....	4	N	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.84	757.8	30.02	762.5	80.1	26.7	54	NE	0.7	0.3	.....	.....	4	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.74	730.1	30.01	762.2	73.4	23.0	70	NW	.....	.....	1	.....	6	.....	.....	0.012	0.3	.....	Prof. Trionfini Carlo.
Milan	29.54	750.2	30.04	762.9	78.4	25.8	66	NE	.....	.....	1	.....	5	SE	.....	0.047	1.2	.....	Prof. Schiaparelli.
Moncalieri	29.17	740.9	30.04	763.0	76.1	24.5	60	SSE	1.8	0.8	.....	.....	5	NE	.....	0.071	1.8	.....	Prof. P. F. Denza.
Mondovi	28.20	716.2	30.03	762.8	72.3	22.4	61	NNW	.....	.....	4	.....	9	.....	.....	0.512	13.0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.83	757.7	30.04	763.1	79.0	26.1	60	SSE	.....	.....	2	.....	7	NE	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.87	758.7	30.04	762.9	77.5	25.3	63	N	.....	.....	2	.....	8	W	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.74	755.5	30.06	763.4	71.8	22.1	88	W	.....	.....	6	.....	10	.....	.....	0.197	5.0	.....	Prof. P. Pigorini.
Florence	29.76	756.0	30.01	762.3	86.9	30.5	38	W	.....	.....	2	.....	9	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.95	760.7	30.03	762.8	80.6	27.0	77	S	5.6	2.5	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.97	761.1	30.01	762.3	75.0	23.9	82	N	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.53	724.6	30.03	762.8	74.5	23.6	67	NE	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rome	29.84	758.0	30.01	762.3	87.8	31.0	43	WSW	5.6	2.5	.....	.....	8	.....	.....	0	0	.....	Avv. P. Ponticelli.
Naples, O. U.	29.84	757.9	30.03	762.8	83.7	28.7	57	WSW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Lecce	29.78	756.4	30.02	762.6	84.6	29.2	57	NW	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. L. Palmieri.
Cagliari	29.83	757.7	30.02	762.4	82.9	28.3	70	E	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.14	740.2	29.99	761.7	91.8	33.2	54	SW	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.79	756.6	30.03	762.8	80.1	26.7	71	ENE.	6.9	3.1	.....	.....	1	.....	.....	0	0	.....	Prof. F. D. Conti.
Syracuse	29.94	760.5	30.02	762.4	82.8	28.2	70	SE	.....	.....	4	.....	3	WSW	.....	0	0	.....	Prof. G. Cacciatore.
SUB-SERIES.																			
Naples, S. R.	29.47	748.5	30.02	762.6	84.2	29.0	62	WNW	0	0	.....	.....	2	NW	.....	0	0	.....	Prof. V. Giuliano.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.60	751.8	29.79	756.6	79.6	26.4	87	WNW	1.0	0.4	.....	.....	10cks	.....	WSW	0	0	Cloudy	
Tokei (Yeddo) Observatory	29.77	756.1	29.84	757.9	70.0	21.1	82	ENE	6.3	2.8	.....	.....	10s	.....	.....	0.005	0.13	Cloudy	I. Arai, Director.
Tokei (Yeddo) University	29.73	755.1	29.82	757.5	68.1	20.1	87	ESE	4	1.8	.....	3cs	7ks	.....	.....	0.08	2.0	Light rain	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.0	17.8	61	N	5.1	2.3	.....	7ck	2s	NE	.....	0.47	11.8	Cloudy	L. Castillo, A. E.
Guadalajara	25.09	637.3	30.05	763.3	57.2	14.0	87	E	0.9	0.4	.....	0	9	.....	E	Inap.	Inap.	Cloudy	Prof. L. Perez.
Guanajuato	23.73	602.9	29.88	759.1	64.9	18.3	82	Calm	0	0	.....	0	10	.....	.....	0	0	Covered	Prof. V. Fernandez
Leon	24.45	621.1	29.98	761.5	63.9	17.7	80	SW	0.9	0.4	.....	2c	4n	E	.....	0.18	4.5	⅓ cloudy	Prof. M. Leal.
Mexico	23.13	587.5	30.10	764.5	59.0	15.0	84	Calm	0	0	.....	2ck	3k	E	SW	0.15	3.7	⅓ cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	63.0	17.2	87	SE	0.9	0.4	.....	2c	3k	.....	.....	Inap.	Inap.	⅓ cloudy	I. Orozco, M. D.
Pabellon, (Aguascalts)	23.39	594.1	30.05	763.2	55.2	12.9	88	NE	0.9	0.4	.....	2cs	0	.....	.....	0.03	0.8	Clear	M. V. de Leon, M. E.
Puebla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.92	759.1	29.93	760.2	77.9	25.5	83	SW	1.8	0.8	.....	10cs	0	.....	.....	0	0	Covered	Prof. F. R. Bayly.
San Luis Potosi	24.30	616.8	30.10	764.5	62.0	16.7	79	E	0.9	0.4	.....	3	0	E	.....	0	0	Blue sky	G. Barroeta, M. D.
Vera-Cruz	29.97	761.2	30.00	761.9	80.6	27.0	84	Calm	0	0	.....	2c	4sk	.....	.....	0.17	4.2	⅓ cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	60.8	16.0	82	NNE	1.8	0.8	.....	0	7	.....	.....	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.22	589.9	30.08	763.9	53.6	12.0	92	ENE	1.1	0.5	.....	0	1	.....	.....	0.14	3.5	Clear	Prof. P. Spina, [M.M.D.D
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F. L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	28.38	720.7	30.00	761.9	78.8	26.0	79	SE	0.9	0.4	.....	0	7	.....	E	0.16	4.1	Cloudy	Antonio Guerra y Guerra.
.....	29.74	755.3	29.88	759.0	78.8	26.0	.....	Calm	0	0	.....	8ck	0	S	.....	0.12	3.0	Cloudy	

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,361.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.12	765.0	30.12	765.0	70.9	21.6	.....	W	.....	.....	4	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	29.99	761.8	30.05	763.2	71.8	22.1	.....	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.06	763.4	30.08	763.4	68.7	20.4	.....	SW	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.00	762.0	30.00	762.0	70.3	21.3	77	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.05	763.2	30.10	764.4	75.0	23.9	60	SW	.....	.....	4	.....	5	.....	.....	0	0	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.85	758.3	29.91	759.7	70.9	21.6	69	SSW	11.6	5.2	.....	.....	6	.....	.....	0.839	21.3	Raining.....	
Bröno	29.83	757.6	29.86	758.5	73.4	23.0	44	W	9	4	.....	.....	3	.....	.....	0	0	....	
Christiania	29.84	758.0	29.98	761.5	76.6	24.8	45	SW	0	0	.....	.....	8	.....	.....	0	0	.....	
Tromsö	29.84	757.8	29.88	758.9	50.0	10.0	62	NE	11	5	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.81	757.1	29.99	761.8	74.5	23.6	90	W	3.1	1.4	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.7	30.05	763.2	87.3	30.7	23	SSE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.06	763.4	30.14	765.6	75.4	24 1	78	SE	6.9	3.1	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.75	755.6	30.10	764.5	77.4	25.2	44	S	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.98	761.5	30.05	763.2	79.9	26.6	75	SSW	3.8	1.7	.....	.....	4	.....	.....	0.016	0.4	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Barthoiomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 38° 17′, W. 21° 49′	.....	.....	30.06	763.5	75.2	24	.....	SW	.....	.....	3	.....	7	N	SW	3	.....	D. clouds.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 01′, E. 40° 42′	.....	.....	30.07	763.7	78.1	25.6	.....	SSE	.....	.....	3	.....	3	.....	SSE	3	.....	Blue sky.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.04	763.0	59.9	15.5	.....	WSW	.....	.....	2	.....	5	.....	WSW	1	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07′, W. 23° 0′	.....	.....	30.02	762.4	85.6	29.8	.....	NNW	.....	.....	2	.....	5	.....	NNW	2	N	D. Clouds ...	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.03	762.7	72.5	22.5	.....	NW	.....	.....	2	.....	10	.....	E	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.50	749.4	29.90	759.5	82.2	27.9	42	ENE	9	4	.....	.....	4ck	.....	.....	.....	.....	....	Astronomical Obs.
Wilna	29.67	753.5	30.07	763.8	68.9	20.5	47	E	2	1	.....	.....	6	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.97	761.1	30.21	767.2	60.3	15.7	43	NE	7	3	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.14	765.5	30.15	765.9	60.1	15.6	50	NW	11	5	.....	.....	4ks	.....	.....	.....	.....	.....	Central Physical Obs.
Knopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.29	744.0	29.89	759.3	73.8	23.2	51	NNE	4	2	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	30.01	762.2	30.08	764.0	80.6	27.0	45	SW	13	6	.....	.....	4k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.03	762.7	30.05	763.2	72.0	22.2	63	NNE	7	3	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.58	751.4	30.13	765.2	58.1	14.5	49	N	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.78	756.4	29.98	761.4	75.2	24.0	36	NNE	13	6	.....	.....	3s	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.87	758.6	29.89	759.1	46.9	8.3	84	WNW	22	10	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.46	722.9	29.81	757.1	76.5	24.7	58	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.03	762.8	29.95	760.7	77.5	25.3	34	NNE	4	2	.....	.....	1ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.53	750.0	29.80	756.8	56.7	13.7	52	NW	4	2	.....	.....	9	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.60	726.5	29.53	750.0	53.4	11.9	59	W	4	2	.....	.....	9m;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.52	749.7	29.74	755.4	81.1	27.3	43	NNE	27	12	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.01	711.5	29.57	751.1	91.4	33.0	54	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.04	737.5	29.53	750.0	72.9	22.7	62	NE	0	0	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.19	741.5	29.47	748.4	76.5	24.7	58	SE	4	2	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.51	749.6	29.65	753.2	81.0	27.2	92	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.99	761.7	30.09	764.3	83.1	28.4	59	S	1.0	0.44	.....	.. ...	4c	.....	.....	.....	.....	Almost clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.10	764.4	30.15	765.8	82.4	28.0	60	NW	2.0	0.90	.....	3	3	S	.....	0	0	Cloudy	Prof. Manuel de Nayeran
Burgos, Met. Obs'y	27.23	691.6	.....	.....	77.9	25.5	52	N	4 7	2.11	.....	.....	6	.....	.....	.....	.....	Clouds..... ...	Domingo Martin y Perez.
Madrid, Royal Observatory	27.91	708.9	29 98	761.6	90.7	32.6	31	W	6.0	2.67	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.93	760.1	30.07	763.7	89.6	32.0	56	ESE	4.2	1.89	.....	2	6	W	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.20	741.7	30.07	763.6	76.8	24.9	60	NNE	3.0	1.33	.....	.....	4	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.96	760.9	30.02	762.5	79.7	26.5	83	E	2.5	1.1	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.6	30.08	764.0	80.4	26.9	52	SW	10.8	4.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.95	760.6	30.04	762.9	83.6	28.6	81	SE	2.5	1.13	.....	3s	3k	SE	SE	0.010	0.25	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.89	759.2	29.93	760.2	59.4	15.2	.....	S	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.98	761.5	30.03	762.8	64.0	17.8	43	SW	.....	.....	4	.....	8	.....	.....	0	0	.....	
Hernosand	29.91	759.6	29.96	760.9	76.6	24.8	42	S	.....	.....	4	.....	0	.....	.....	0	0	.....	
Stockholm	29.95	760.8	30.13	765.3	67.1	19.5	44	SSW	.....	.....	4	.....	0	.....	.....	0	0	.....	
Wisby	30.05	763.3	30.11	764.8	69.1	20.6	39	SE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	30.01	762.3	30.09	764.2	73.0	22.8	41	SSW	15.7	7.0	.....	.....	2	NW	.....	0.602	0.05	.....	Nils Ekholm.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.74	730.1	30.10	764.6	78.1	25.6	56	E	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.53	724.7	30.11	764.9	70.9	21.6	72	W	.....	.....	1	.....	8	.....	.....	0	0	Thunder	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +2.3 mm.; Thermometer, +3.4 cent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.03	762.8	71.2	21.8	54	NE	9	4.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.13	765.2	79.3	26.3	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.63	752.6	29.74	755.4	93.9	34.4	48	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.36	745.7	29.43	747.5	63.1	17.3	92	N	4	1.8	.....	.....	6n	.....	.....	0	0	Clearing	Hon. J. Ferguson.
Brockville, Ontario	29.48	748.8	29.77	756.1	75	23.9	.....	SW	4	1.8	.....	0	2s	.....	W	0.20	5.1	Clear	W. R. Bigg.
*Chatham, N B	29.37	746.0	29.43	747.5	65	18.3	86	SW	4	1.8	.....	2ck	8ks	SW	SW	1.59	40.4	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.42	747.3	29.46	748.3	65	18.3	89	SW	4	1.8	.....	.....	8ks	.....	SW	0.630	16.00	Clearing	H. J. Cundall, C. E.
Cornwall, Ontario	29.56	750.8	29.74	755.4	63.1	17.3	83	SW	.....	.....	2	2cs	0	.....	.....	0.198	5.03	Clear	James Smith, M. A.
Dalhousie, N. B	29.28	743.7	29.43	747.5	61	16.1	98	W	.....	.....	2	.....	.....	.....	.....	1.80	45.7	Clearing	H. A. Johnson.
Esquimault, B. C	29.95	760.7	30.00	762.0	52.2	11.2	94	Calm	.....	.....	.....	6cs	0	.....	.....	0	0	Cloudy	W. H. Revis.
*Father Point, Quebec	29.50	749.3	29.52	749.8	48	8.9	96	NW	10	4.5	.....	.....	Fog	.....	.....	0.68	17.3	Light rain	J. McWilliams.
Fredericton, N. B	29.49	749.0	29.55	750.6	67.1	19.5	74	NW	12	5.4	.....	.....	9s	.....	.....	0.04	1.0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	28.93	734.8	29.72	754.9	59	15.0	88	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.73	729.7	29.77	756.1	71	21.7	95	SW	.....	.....	2	2k	0	NE	.....	0.11	2.8	Clear	James Grant.
*Halifax, N. S	29.41	747.0	29.54	750.3	64	17.8	86	W	12	5.4	.....	.....	8ks	.....	W	0.036	0.91	Clearing	F. Allison, M. A.
Hamilton, Ontario	29.44	747.8	29.79	756.7	72.1	22.3	76	W	.....	.....	3	4c	0	NW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.69	754.1	29.72	754.9	61	16.1	88	S	.....	.....	4	.....	10	.....	.....	0.08	2.0	Showery	E. Weedon.
*Kingston, Ontario	29.47	748.5	29.77	756.1	69	20.6	73	S	9	4.0	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.48	748.8	29.51	749.5	65.0	18 3	.....	SW	12	5.4	.....	8k	0	SW	.....	1.12	28 4	Cloudy	C. H. Rigby.
*Montreal, Quebec	29.55	750.6	29.74	755.4	65	18.3	71	N	9	4.0	.....	5k	2s	N	.....	0.49	12.4	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.03	737.3	29.69	754.1	69	20.6	92	SE	11	4.9	.....	0	2ks	.....	E	0.02	0.5	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.06	738.1	29.78	756.4	67.2	19.6	79	E	.....	.....	2	8k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.81	757.2	72	22.2	90	S	6	2.7	.....	10k	0	W	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	29.45	748.0	29.50	749.3	60.5	15.8	.....	NW	5	2.2	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.21	741.9	29.83	757.7	72	22.2	85	W	10	4.5	.....	2k	0	W	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.34	745.2	29.66	753.4	60	15.6	82	W	.....	.....	2	5c	2ks	W	W	0	0	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.28	743.7	29.73	755.1	56	13.3	94	E	3	1.3	.....	.....	5s	.....	NW	0.03	0.8	Fair	W. H. McIntyre.
St. Andrews, N. B	29.55	750.6	29.60	751.8	65	18.3	83	NW	1	0.4	.....	2ck	0	N	.....	0.17	4.3	Fair	Dr. Gove.
St. John, N. B	29.41	747.0	29.57	751.1	65	18.3	89	W	12	5.4	.....	.....	7k	.....	.....	Inap.	Inap.	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.02	737.1	29.70	754.4	73	22.8	81	SW	19	8.5	.....	2k	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.00	736.6	29.73	755.1	72	22.2	76	SW	8	3.6	.....	8ck	0	NW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	29.55	750.6	29.77	756.1	68.8	20.4	93	SW	10	4.5	.....	1cs	0	.....	.....	0.038	0.97	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.49	749.0	29.52	749.8	66	18.9	92	SW	10	4.5	.....	2c	5ks	.....	SW	0.62	15.7	Clearing	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.77	756.1	68	20.0	87	SW	5	2.2	.....	.....	10ks	.....	W	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	58.0	14.4	100	SE	.....	.....	.....	.....	10n	.....	.....	0.06	1.5	Raining	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.60	751.8	29.82	757.4	68	20.0	65	NW	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
Alpena, Michigan	29.04	737.6	29.64	752.8	73	22.8	76	W	12	5.4	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Atlantic City, New Jersey	29.91	759.7	29.93	760.2	72	22.2	71	W	6	2.7	.....	8c	0	W	.....	0	0	Fair	
Augusta, Georgia	29.77	756.1	29.95	760.7	86	30.0	65	NW	3	1.3	.....	Haze	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.90	759.4	29.95	760.7	74	23.3	59	NW	4	1.8	.....	8c;ck	0	NW	.....	0	0	Fair	
Barnegat, New Jersey	29.90	759.4	29.92	760.0	74	23.3	68	W	7	3.1	.....	10c	0	W	.....	0	0	Cloudy	
Bismarck, Dakota	28.12	714.2	29.98	761.5	63	17.2	57	Calm	0	0	.....	1cs	0	SW	.....	0	0	Clear	
BoiseCity, Idaho	27.11	688.6	29.99	761.7	58	14.4	47	E	4	1.8	.....	2ck	Sm'e	Calm	Calm	0	0	Fair	
Boston, Massachusetts	29.66	753.4	29.80	756.9	68.5	20.3	63	NW	12	5.4	.....	1cs	0	Calm	.....	0.09	2.3	Clear	
Brackettville, Texas	28.83	732.3	29.81	757.2	79	26.1	78	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.79	731.3	29.74	755.4	64	17.8	83	N	6	2.7	.....	0	0	.....	.....	0.12	3.0	Clear	
Brownsville, Texas	29.90	759.4	29.96	761.0	84	28.9	79	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.12	739.6	29.78	756.4	75	23.9	72	SW	10	4.5	.....	5k	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	87	30.6	49	SE	.....	.....	1	0	8s	.....	SE	0	0	Fair	
Burlington, Vermont	29.56	750.8	29.80	756.9	67	19.4	64	SW	4	1.8	.....	0	0	.....	.....	0.07	1.8	Clear	
Cairo, Illinois	29.59	751.6	29.96	761.0	84	28.9	75	S	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	68	W	.....	.....	1	0	8ks	.....	SE	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	68	20.0	70	NW	.....	.....	1	2c	2s	Calm	NW	0.86	21.8	Fair	
Camp Verde, Arizona	26.75	679.4	30.24	768.1	80	26.7	59	S	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Campo, California	27.35	694.7	29.92	760.0	61	16.1	88	E	.....	.....	1	8c	0	E	.....	0.01	0.3	Cloudy	
Cape Hatteras, N. Carolina	29.96	761.0	29.97	761.2	75	23.9	81	NE	15	6.7	.....	2cs	0	SW	.....	0.15	3.8	Fair	
Cape Henry, Virginia	29.96	761.0	29.9	761.7	79	26.1	74	SW	6	2.7	.....	5cs	0	Calm	.....	0	0	Fair	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	84	28.9	83	SW	12	5.4	.....	2k	0	SW	.....	0.31	7.9	Fair	
Cape May, New Jersey	29.92	760.0	29.95	760.7	74	23.3	72	NW	10	4.5	.....	5cs	0	W	.....	0	0	Fair	
Castroville, Texas	29.21	741.9	29.88	758.9	81	27.2	83	SE	4	1.8	.....	0	5ks	.....	SE	0	0	Fair	
Charleston, South Carolina	29.93	760.2	29.99	761.7	84	28.9	79	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	59	15.0	76	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.15	740.4	29.80	756.9	76	24.4	77	SW	5	2.2	.....	2ck	Haze	NW	.....	0	0	Fair	
Cincinnati Ohio	29.29	744.0	29.91	759 7	76	24.4	60	SE	4	1.8	.....	0	Sm'e	.....	SE	0	0	Clear	
Cleveland, Ohio	29.19	741.4	29.87	758.7	73	22.8	55	S	19	8.5	.....	5k	0	SW	.....	0	0	Fair	
Columbus, Ohio	29.12	739.6	29.91	759.7	74	23.3	68	S	3	1.3	.....	2ck	Haze	Calm	Calm	0	0	Fair	
Concho, Texas	28.09	713.5	29.70	754 4	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.52	749.8	29.97	761.2	77	25.0	86	SW	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.23	742.4	29.83	757.7	76	24.4	82	SW	1	0.4	.....	1k	4ks	NW	W	Inap.	Inap.	Cloudy	
Denison, Texas	29.21	741.9	29.97	761.2	81	27.2	78	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.85	631.2	30.07	763.8	67	19.4	50	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.96	735.6	29.78	756.4	78	25.6	73	Calm	.....	.....	0	0	8s	.....	Calm	0.16	4.1	Cloudy	
Detroit, Michigan	29.16	740.7	29.79	756.7	73	22.8	72	SW	8	3.6	.....	0	1s	.....	SW	0	0	Clear	
Dodge City, Kansas	27.39	695.7	29.54	750.3	77	25.0	69	S	6	2.7	.....	1cs	0	Calm	.....	0	0	Clear	
Dubuque, Iowa	29.17	740.9	29.82	757.4	76	24.4	73	SW	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
Duluth, Minnesota	29.05	737.9	29.67	753.6	76	24.4	64	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.21	741.9	29.91	759.7	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.54	750.3	29.61	752.1	65	18.3	78	W	9	4.0	.....	5c	0	SW	.....	0.30	7.6	Fair	
El Paso, Texas	.....	.....	.....	.....	81	27.2	55	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.14	740.1	29.81	757.2	74	23.3	63	SW	9	4.0	.....	2k	5s	NW	.....	0	0	Cloudy	
Escanaba, Michigan	29.06	738.1	29.67	753.6	72	22.2	76	W	8	3.6	.....	5k	5s	W	W	Inap.	Inap.	Cloudy	
Florence, Arizona	.....	.....	.....	.....	78	25.6	78	SW	.....	.....	1	.....	10n	.....	W	0.03	0.8	Light rain	
Fort Craig, New Mexico	25.55	649.0	29.61	752.1	71	21.7	67	Calm	0	0	.....	5s	0	E	.....	0	0	Fair	
Fort Davis, Texas	25.26	641.6	30.22	767.6	71	21.7	67	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.44	747.8	29.95	760.7	80	26.7	82	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.71	729.2	29.93	760.2	73	22.8	81	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.81	757.2	79	26.1	78	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Galveston, Texas	29.96	761.0	30.09	762.0	83	28.3	83	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.18	741.2	29.78	756.4	76	24.4	86	SW	6	2.7	.....	2ck	0	NW	.....	0	0	Fair	
Indianapolis, Indiana	29.16	740.7	29.80	759.2	77	25.0	61	S	4	1.8	.....	1ck	0	W	.....	0	0	Clear	
Indianola, Texas	29.97	761 2	29.99	761.7	82	27.8	83	Calm	0	0	.....	0	2ks	.....	Calm	0.01	0.3	Fair	
Jacksboro, Texas	28.82	732.0	29.89	759.2	77	25.0	42	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.97	761.2	29.99	761.7	78	25.6	86	S	5	2.2	.....	.....	10s	.....	SE	0.01	0.3	Cloudy	
Keokuk, Iowa	29.23	742.4	29.80	756.9	80	26.7	74	W	11	4.9	.....	2k	5s	W	W	Inap.	Inap.	Fair	
Key West, Florida	29.99	761.7	30.02	762.5	86	30.0	68	SE	4	1.8	.....	5c;k	0	NW;SE	.....	0	0	Fair	
Kittyhawk, North Carolina	29.95	760.7	29.97	761.2	79	26.1	70	S	15	6.7	.....	5cs	0	S	.....	0	0	Fair	
Knoxville, Tennessee	29.02	737.1	29.97	761.2	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.05	737.9	29.74	755.1	76	24.4	82	S	6	2.7	.....	8c	0	NW	.....	0	0	Fair	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	72	22.2	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.51	749.5	29.83	757.7	81	27.2	78	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.91	632.7	30.18	766.6	61	16.1	71	SW	2	0.9	.....	.....	10ks	.....	W	0	0	Threatening	
Leavenworth, Kansas	29.04	737.6	29.84	757.9	76	24.4	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.47	748.5	29.80	756.9	63	17.2	70	N	1	0.4	.....	0	1s	.....	Calm	0	0	Clear	
Louisville, Kentucky	29.39	746.5	29.92	760.0	77	25.0	57	NE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.30	744.2	29.96	761.0	74	23.3	67	NW	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	28.97	735.8	29.62	752.3	74	23.3	72	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.37	720.6	30.05	763.3	76	24.4	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.69	754.1	29.99	761.7	82	27.8	70	NW	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.08	738.6	29.76	755.9	76	24.4	77	SW	8	3.6	.....	5cs	0	NW	.....	0	0	Fair	
Mobile, Alabama	29.96	761.0	30.00	762.0	82	27.8	83	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.76	755.9	29.99	761.7	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.94	735.1	29.94	760.5	71	21.7	66	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mt. Washington, N. H.	23.61	599.7	29.97	761.2	41	5.0	100	NW	46	20.6	.....	.....	Fog	.....	NW	0.42	10.7	Foggy	
Nashville, Tennessee	29.46	748 3	29.96	761.0	82	27.8	75	W	1	0.4	.....	0	Sm'e	.....	Calm	Inap.	Inap.	Clear	
New Haven, Connecticut	29.75	755.6	29.86	758.4	78	25.6	57	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.81	757.2	29.85	758.2	74	24.3	63	W	7	3.1	.....	0	1s	.....	Calm	0.04	1.0	Clear	
New Orleans, Louisiana	29.90	759.4	29.95	760.7	84	28.9	75	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.79	756.7	29.84	757.9	69	20.6	70	W	6	2.7	.....	4c	0	W	.....	0.23	5.8	Fair	
New York, New York	29.74	755.4	29.99	759.4	70	21.1	66	W	9	4.0	.....	8cs;ck	0	Calm;W	.....	0	0	Fair	
Norfolk, Virginia	29.92	760.0	29.98	761.5	81	27.2	67	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
North Platte, Nebraska	27.00	685.8	29.42	747.3	71	21.7	80	E	3	1.3	.....	2c	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	30.07	763.8	30.11	764.8	56	13.3	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.70	729.0	29.70	754.4	79	26.1	78	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.53	750.0	29.83	757.7	68	20.0	74	SW	3	1.3	.....	.....	10s	.....	.....	0	0	Cloudy	
Pembina, Dakota	28.94	735.1	29.74	755.4	57	13.9	87	NW	10	4.5	.....	Haze	0	.....	.....	0	0	Dense haze	
Philadelphia, Pennsylvania	29.88	758.9	29.93	760.2	72	22.2	62	W	6	2.7	.....	8ck	Haze	NW	Calm	0	0	Cloudy	
Phœnix, Arizona	28.79	731.3	.....	.....	82	27.8	79	SE	.....	.....	2	8c	0	SW	.....	0.07	1.8	Fair	
Pike's Peak, Colorado	18.14	446.8	30.34	770.6	40	4.4	56	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.12	612.6	29.89	759.2	73	22.8	28	S	7	3.1	.....	2k	2s	S	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.13	739.9	29.99	759.4	71	21.7	66	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.13	739.9	29.75	755.6	73	22.8	76	SW	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Portland, Maine	29.68	753.9	29.73	755.1	68	20.0	65	W	8	3.6	.....	1k	Haze	Calm	.....	Inap.	Inap.	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Oregon	30.07	763.8	30.18	766.6	55	12.8	87	NW	1	0.4	.....	.....	10ks;fg	.....	W; Calm	0	0	Cloudy	
Prescott, Arizona	24.84	630.9	30.20	767.1	70	21.1	49	N	.....	.....	1	2cs	2ks	Calm	Calm	0.17	4.3	Fair	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	80	26.7	87	SE	3	1.3	.....	5ck	5s	SW	SW	0.15	3.8	Cloudy	
Red Bluff, California	29.52	749.8	29.86	758.4	68	20.0	42	NW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.21	741.9	29.79	756.7	72	22.2	80	SW	5	2.2	.....	3cs;ck	0	SW	.....	0	0	Fair	
Roseburg, Oregon	29.57	751.1	30.14	765.5	56	13.3	87	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.78	756.4	29.86	758.4	60	15.6	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.38	746.2	29.92	760.0	78	25.6	69	W	8	3.6	.....	0	2s;sm	.....	Calm	0	0	Fair	
St. Marks, Florida	29.97	761.2	29.98	761.5	78	25.6	91	W	3	1.3	.....	2k	0	W	.....	0.63	16.0	Fair	
St. Paul, Minnesota	28.87	733.3	29.64	752.8	76	24.4	86	NW	2	0.9	.....	10cs	0	Calm	.....	Inap	Inap.	Cloudy	
Salt Lake City, Utah	25.60	650.2	29.93	760.2	76	24.4	31	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Antonio, Texas	29.28	743.7	29.84	757.9	78	25.6	91	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.76	755.9	29.84	757.9	67	19.4	100	NW	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	
Sandusky, Ohio	29.24	742.7	29.87	758.7	74	23.3	59	SW	13	5.8	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.87	758.7	29.90	759.4	76	24.4	64	W	12	5.4	.....	5cs	0	W	.....	0	0	Fair	
San Francisco, California	29.85	758.2	29.92	760.0	55	12.8	87	S	5	2.2	.....	0	1s	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	62	16.7	51	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.87	758.7	29.96	761.0	87	30.6	72	SW	4	1.8	.....	1ck	0	W	.....	0	0	Clear	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	81	27.2	83	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.34	618.2	.....	.....	60	15.6	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.95	760.7	29.98	761.5	83	28.3	87	SW	8	3.6	.....	0	5ks	.....	SW	0	0	Fair	
Springfield, Massachusetts	29.66	753.4	29.79	756.7	73	22.8	63	W	4	1.8	.....	0	0	.....	.....	0.39	9.9	Clear	
Stockton, Texas	26.96	684.8	29.96	761.0	72	22.2	37	SE	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Thatcher's Island, Mass	29.75	755.6	29.80	756.9	68	20.0	70	NW	14	6.3	.....	1k	0	NW	.....	0.65	16.5	Clear	
Toledo, Ohio	29.18	741.2	29.82	757.4	75	23.9	64	SW	10	4.5	.....	0	2ks	.....	Calm	0	0	Fair	
Tucson, Arizona	27.35	694.7	29.90	759.4	81	27.2	78	Calm	0	0	.....	10k	0	Calm	.....	0.28	7.1	Cloudy	
Tybee Island, Georgia	29.94	760.5	29.97	761.2	84	28.9	79	S	4	1.8	.....	5cs	0	NE	.....	0	0	Fair	
Umatilla, Oregon	29.64	752.8	.....	.....	65	18.3	49	SW	12	5.4	.....	Haze	Haze	W	W	0	0	Hazy	
Vicksburg, Mississippi	29.77	756.1	30.02	762.5	78	25.6	73	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.30	617.2	29.78	756.4	62	16.7	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.53	750.0	29.89	759.2	61	16.1	60	N	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Washington, D. C	29.87	758.7	29.98	761.5	73	22.8	72	W	3	1.3	.....	2ck	2s	W	Calm	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	82	27.8	63	S	.....	.....	2	.....	10ks	.....	E	Inap.	Inap.	Cloudy	
Wilmington, N. Carolina	29.87	758.7	29.94	760.5	82	27.8	82	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.64	651.2	30.00	762.0	67	19.4	21	SW	8	3.6	.....	8cs	0	SW	.....	0	0	Fair	
Wood's Holl, Mass	29.78	756.4	29.83	757.7	69	20.6	75	NW	6	2.7	.....	8c;cs	0	NW	.....	0.10	2.5	Cloudy	
Yankton, Dakota	28.52	724.4	29.71	754.6	78	25.6	82	NE	2	0.9	.....	1c	0	W	.....	0	0	Clear	
Yuma, Arizona	29.64	752.8	29.80	756.9	87	30.6	61	S	15	6.7	.....	.....	10ks	.....	NW	0	0	Cloudy	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.81	757.2	29.86	758.4	59.5	15.3	94	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I	30.02	762.5	30.04	763.0	82	27.8	78	E	1.2	0.5	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	81	27.2	78	E	2	0.9	.....	4c	5s	E	.....	0.4	10.	Cloudy	G. O. Gellich.
Kingston, Jamaica, W. I	30.11	764.8	30.12	765.0	82	27.8	83	Calm	0	0	.....	8c	2s	Calm	E	0	0	.....	James Gall.
Navassa, W. I	29.89	759.2	29.97	761.2	84	28.9	.....	NE	13.3	5.9	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.06	763.5	30.06	763.5	79	26.1	82	E	.....	.....	2	3k	5k	E	.....	0.210	5.33	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A	25.25	641.3	.....	.....	65.5	18.6	80	Calm	0	0	.....	9cs;k	1ks	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medillin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettsville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,7 (?)50 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,255 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m. Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.48 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The velocity of the wind at Florence is estimated. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15	765.8	82.5	28.1	82.5	28.1	95	NW	1	0.4	.....	.....	2	.....	SE	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.99‡	761.7‡	.....	.....	63	17.2	100	WNW	4	1.8	.....	.....	2	.....	.....	0.6	15.	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.80*	756.9*	73	22.8	71.5	21.9	83	E	.....	.....	4	.....	9ks	.....	N	0.04	1.0	.....	.....	Cloudy.....	
Adams. Apia, Samoan Islands	30.01	762.2	75	23.9	75	23.9	90	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance. Cherbourg, France	30.18‡	766.6‡	.....	.....	70	21.1	70	NW	.....	.....	1–2	.....	5	.....	NW	.....	.....	.....	.....	Pleasant.....	
Ashuelot. N. 33° 55′ E. 132° 39′	29.87	758.7	81	27.2	76	24.4	100	NE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.	
Canonicus, New Orleans, La	30.02	762.5	57	13 9	81	27.2	91	NNE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	29.86‡	758.4‡	.....	.....	72	22.2	67	SSW	6	2.7	....	.....	8	.....	SSW	0	0	.....	.....	Hazy	
Constitution, Havre, France	30.13‡	765.3‡	.....	.....	67	19.4	79	W	.....	.....	3	.....	5	.....	W	.....	.....	.....	.....	Pleasant.. ...	
Despatch. Volo, Turkey	30.01‡	762.2‡	.....	.....	80	26.7	74	SSE	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Clear.	
Franklin, Norfolk, Va.	30.00	762.0	82	27.8	80	26.7	78	NNW	2	0.9	.....	.....	2	.....	N	0	0	.....	.....	Clear.....	
Gettysburg Villefranche, France	29.96‡	761.0‡	.....	.....	83	28.3	91	SSW	.....	.....	1	.....	8	.....	Calm	0	0	Smooth	.....	Cloudy.....	
Hartford. Rio de Janeiro, Brazil	30.20	767.1	.....	.....	69	20.6	85	NNE	4.8	2.1	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Marion. Villefranche, France	30.08	764.0	79	26.1	78	25.6	78	S	.....	.....	1	.....	10	.....	SW	0	0	Smooth	.....	Cloudy.....	
Michigan. Houghton, Mich.	29.32	744.7	81	27.2	74	23.3	72	WSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Yokohama, Japan	29.78‡	756.4‡	.....	.....	72	22.2	85	SE	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Cloudy.....	
New Hampshire. Port Royal, S. C.	30.15†	765.8†	.....	.....	81	27.2	83	SW	9	4.0	.....	.....	2	.....	W	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	61	16.1	82	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Palos. Tientsin, China	29.73	755.1	83	28.3	80	26.7	87	Calm	.....	.....	0	.....	2	.....	S;E	.....	.....	.....	.....	Fair	
Pensacola, Mare Island, California	29.98	761.5	64	17.8	58	14.4	94	SSW	10	4.5	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Plymouth. New York, N. Y.	29.88‡	758.9‡	.....	.....	71	21.7	75	WSW	.....	.....	1–2	.....	8	.....	ESE	.....	.....	.....	.....	Cloudy.....	
Ranger. Macao, China	30.02	762.5	84	28.9	83	28.3	91	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Rio Bravo. Brownsville, Texas	29.90	759.4	81	27.2	81	27.2	96	SE	.....	....	1	.....	1	.....	Calm	.....	.....	.....	.....	Clear	
Santee, Annapolis, Md.	29.94‡	760.5‡	.....	.....	76	24.4	64	NW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy.	
St. Louis, League Island, Pa	29.90	759.4	74	23.3	71	21.7	85	SW	8	3.6	.....	.....	10	....	SSW	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	30.24	768.1	68	20.0	68	20.0	84	NW	.....	.....	1	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass.	29.76‡	755.9‡	.....	.....	68	20.0	79	NW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Cherbourg, France	30.14‡	765.5‡	.....	.....	77	25.0	60	W	.....	.....	3	.....	3	.....	N;W	0	0	.....	.....	Clear	
Tuscarora, Acapulco, Mexico	29.71	754.6	81	27.2	82	27.8	75	NE	.....	.....	2	.....	2	.....	SW	0	0	.....	.....	Clear.	
Vandalia, Naples, Italy	29.99‡	761 7‡	.....	.....	81	27.2	74	SW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	29.79‡	756.7‡	.....	.....	69	20.6	70	NW	7	3.1	.....	.....	2	.....	NW	0.12	3.0	.....	.....	Fair	
Wyoming, N. 40° 43′, W. 67° 38′	29.82†	757.4†	.....	.....	66	18.9	94	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Mod'ate	SW	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

*It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 40° 22′, E. 164° 28′		29.91*	759.7*	64	17.8	100	ESE			5		10		ESE	10hours	Mod'ate	ESE	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 34° 41′, E. 142° 55′		29.81†	757.2†	74	23.3	86	N	21	9.4			10		NW	Light	Small	NE	Misty	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Seattle, W. T.		30.07†	763.8†	60	15.6	76	Calm			0		6						D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 40° 41′, W. 69° 30′		29.68*	753.9*	64	17.8	78	SSW			3				W	0	None		D clouds	Capt. B. Gleadell.
S. S. Germanic, Mersey River		30.09†	764.3†	66	18.9	89	WSW			5		7		SW	0			D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 41° 01′, W. 157° 40′		30.01*	762.2*	63	17.2	78	W			5		n		NW		Rough	NNW	Showery	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 27° 52′, E. 126° 58′		29.72	754.9	80	26.7	78	Var.			1–2		7		NNW		Swell	SW	Thunder-storm.	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 53° 54′, E. 5° 55′		29.99	761.7	68	20.0	84	WSW			3		5		WSW	0	1	WSW	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 48° 2′, W. 32° 4′		29.99*	761.7*	68	20.0	90	E			2					Light	Light	ENE	Clear	Captain Sargent.
S. S. Ohio, N. 43° 22′, W. 60° 28′ 15″		29.64	752.8	71	21.7	85	WSW			4		7?		WSW	0	Rough	WSW	Clear?	Captain Morrison.
S. S. Pennsylvania																			Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Rendle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.20*	776.1*	46.0	7.8	61	E			3	0	0						Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 9, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			
Nemours			30.04	763.1	81.3	27.4	67	N			8		2			0	0	Fair	Dr. Ollive.
Algiers			29.95	760.8	84.6	29.2	72	NE			2		2			0	0	Fair	Kesxuche.
La Calle			30.03	762.7	86.7	30.4	69	NNE			1		1			0	0	Very fair	Tourilliere.
Tunis			30.05	763.2															Foufrede.
Sfax			30.10	764.5	89.6	32.0		NNE			3		0			0	0	Clear	Jacques.
Saida			30.10	764.4	93.7	34.3	25	N			1		4			0	0	Cloudy	Gau.
Tebessa			30.03	762.7	93.7	34.3	22	N			1		1			Inap.	Inap.	Very fair	Herbin.
Geriville			30.15	765.7	98.6	37.0		WNW			9		4			0	0	Cloudy	Watrin.
Laghouat			30.10	764.4	105.1	40.6	54	SW			1		0			0	0	Clear	Brugnianx.
Biskra			30.03	762.7	103.1	39.5	24	E			1		2			0	0	Fair	Bertrand.
																			Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.47	748.4	29.99	761.7	77.7	25.4	49	NE			3		7			0	0		Prof. Ivan Stossi.
Cracow	29.21	742.0	29.95	760.7	66.6	19.2	88	SW			1		10			0.486	12.36		Prof. Dr. Karlinski.
Eperies	29.04	737.6	29.89	759.3	65.8	18.8	98	Calm			0		10k;n		S	2.362	60.00		Julius Mikolik.
Gratz	28.81	731.8	30.01	762.3	73.0	22.8	50	NW			5		2			0	0		Andreas Rospini.
Hermannstadt	28.49	723.6	29.87	758.7	66.2	19.0	97	SW			1		10			0.122	3.10	Thunder-storm.	Prof. Reissenberg
Kremsmünster	28.72	729.4	30.00	762.1	72.7	22.6	54	NW			3		8			0.094	2.4		Prof. C. Wagner
Lemberg	28.94	735.0	29.88	758.9	74.5	23.6	56	SE			1		4			0	0		Dr. T. Stanecki.
Pola	29.91	759.8	30.02	762.5	79.3	26.3	62	WNW			2		1k			0.169	4.8		I.R.Hydrographic Office
Szathmar	29.48	748.8	29.93	760.1	77.0	25.0	64	S			3		7			0	0		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.98	761.0	30.07	763.6	78.8	26.0	64	W			1		1			0	0	Fair	P. Busin.
Vienna	29.33	745.0	30.02	762.6	71.8	22.1	66	NW			1		9			0.110	2.8		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.69	728.8	30.15	765.8	72.5	22.5	46	E			1		8			0	0		Prof. M. Passau.
Brussels	29.93	760.3	30.13	765.2	73.8	23.2	60	W			1	0	6	W?	SE	0	0		Royal Observatory
Furnes	30.14	765.6	30.17	766.2	72.0	22.2	68	WNW			2		4			0	0		M. E. de Cae.
Maeseyck	30.07	763.6	30.19	766.8	74.6	23.6	60	S			2		3			0.740	18.8		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.98	761.5	30.07	763.8	63 0	17.2	.....	SSE	15	6.7	.....	.....	2	.....	.....	0.010	0.25	Blue sky.....	W. Boswell.
Ardrossan	30.01	762.2	30.02	762.5	66	18.9	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	29.99	761.7	64.6	17.8	.....	SSE	14	6.3	.....	.....	10	.....	.....	.....	.....	Squally.....	S. Cail.
Bidston, (Liverpool Obs.)	.....	.....	30.05	763.3	68.2	20.1	.....	SE	9	4.0	.....	.....	9	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.74	755.4	29.93	760.2	66.9	19.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.67	753.6	30.07	763.8	68.8	20.4	.....	E	.....	.....	1	.....	3	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	83	28.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.10	764.5	75.0	23.9	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd. [H. C.
Cardington	.....	.....	30.11	764.8	74.0	23.3	.....	NW	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	30.00	762.0	30.12	765.0	77.2	25.1	.....	S	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky.....	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.56	725.4	30.01	762.2	64.0	17.8	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Alexander Watt. [Col. Mar-
Donaghadee	30.02	762.5	30.05	763.3	65	18.3	.....	SSE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan. [tin, R. E.
Dover	30.09	764.3	30.12	765.0	69	20.6	.....	WSW	2.8	1.3	2	.....	1	.....	.....	.....	.....	¾ clouded..	J. Costello.
Eccles, (near Manchester)	.....	.....	30.06	763.5	72.8	22.7	.....	S	.....	.....	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.80	756.9	30.02	762.5	66.0	18.9	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.77	705.4	30.04	763.0	62.0	16.7	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.74	755.4	29.97	761.2	82	27.8	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds..	
Galway, Queen's College	.....	.....	29.87	758.7	62	16.7	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.99	761.7	30.04	763.0	76.5	24.7	.....	NE	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.83	757.7	30.04	763.0	65.5	18.6	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	30.11	764.8	30.12	765.0	69	20.6	.....	ESE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.94	760.5	30.10	764.5	72.3	22.4	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.83	757.7	30.04	763.0	68.5	20.3	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F. R. S.
Helston	.....	.....	30.00	762.0	69	20.6	.....	E	.....	.....	2	.....	8k	.....	.....	0	0	Misty.....	M. P. Moyle.
Holyhead	29.98	761.5	30.02	762.5	67	19.4	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	John Tilston.
Jersey	29.89	756.9	30.09	764.3	72.7	22.6	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	30.10	764.5	72.8	22.7	.....	SW	7	3.1	.....	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	29.99	761.7	30.02	762.5	65	18.3	.....	SSE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	30.13	765.3	68.9	20.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F. G. S.
Malta, (Mediterranean)	29.87	758.7	29.95	760.7	84	28.9	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.92	760.0	30.01	762.2	67	19.4	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.03	762.7	82.5	28.1	.....	SW	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.90	759.4	30.09	764.3	75.7	24.3	.....	SSE	.....	.....	2	.....	8c;k	.....	.....	S	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.56	750.8	30.07	763.8	69.3	20.7	.....	S	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.08	764.0	72	22.2	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	29.97	761.2	30.04	763.0	69.6	20.9	.....	ESE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.85	758.2	29.89	759.2	67	19.4	.....	S	.....	.....	4	.....	8	.....	.....	.....	.....	Showery.....	W. Kennedy.
Saint Ann's Head	29.87	758.7	30.03	762.7	64	17.8	.....	ESE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.05	763.3	62	16.7	.....	SW	.....	.....	6	.....	1	.....	.....	.....	.....	Blue sky..	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.82	757.4	76.2	24.6	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. F. Cooper.
Silloth Rectory	30.02	762.5	30.05	763.3	69.9	21.1	77	Calm	.....	.....	0	.....	6	.....	.....	0.165	4.19	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.67	753.6	30.07	763.8	69.0	20.6	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	W. C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	29.91	759.7	29.94	760.5	63	17.2	.....	S	.....	.....	3	.....	5	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	30.02	762.5	65	18.3	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	30.02	762.5	70	21.1	.....	SE	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.85	758.2	65.9	18.8	.....	SE	28	12.5	.....	.....	10	.....	.....	Blank	Blank	D. clouds.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.32	744.7	55.0	12.8	93	SW	.....	.....	2	.....	7kn	.....	.....	.....	.....	Raining	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.0	73.0	22.8	74	E	5.0	2.2	.....	0	9	.....	.....	0.02	0.5	Cloudy.....	C. Meldrum.
Melbourne, Observatory	29.68	753.9	29.78	756.4	48.8	9.3	80	NNW	9	4.0	.....	.....	8	.....	W	0.02	0.5	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—																	
S. S. Algeria, N. 51° 30′ W. 11° 50′	.....	.....	29.75	755.6	66	18.9	.....	SSE	.....	.....	4	.....	4	S	.....	5*	S	D. clouds.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 60° 10′, W. 49° 50′	.....	.....	29.85	758.2	47	8.3	.....	ESE	.....	.....	4	.....	7	.....	.....	3	.....	Drizzling.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Qualle
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 41° 30′, W. 67° 30′	.....	.....	29.80	756.9	63	17.2	.....	SW	.....	.....	4	.....	5	.....	.....	3	.....	D. clouds.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5			67.1	19.5	93	SE			1		9ks;s			0.5	13.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	30.00	762.0	30.05	763.2	69.6	20.9	61	WSW			2		7						
Fanöe	30.04	763.0	30.06	763.5	67.5	19.7	70	W			4		4						
Godthaab, (Greenland)	29.86	758.4	29.90	759.5	44.2	6.8	88	Calm			0		10						
Stykkisholm, (Iceland)	29.74	755.4	29.78	756.5	49.6	9.8	84	SE			4		8					Raining	
Thorshavn, (Faröe)	29.93	760.2	29.97	761.1	58.5	14.7	69	WSW			2		4						
Vestervig	29.85	758.2	30.02	762.5	66.2	19.0	81	W			4		10						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.63	752.7	30.19	766.7	71.6	22	66	SE			1		5			0	0	Cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.98	761.6	30.07	763.6	85.3	29.6	52	NE			1		0			0	0	Very clear	M. Girand, Director.
Bar-sur-Seine	29.55	750.6	30.08	764.1	78.6	25.9	38	SE			1		5kn		SE	0	0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.84	757.9	30.11	764.9	74.8	23.8	49	ESE			1		8		SE	0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.26	743.1	30.11	764.8	77.2	25.1	54	E			4		0			0	0	Clear	Normal School.
Bourg-en-Bresse, N. School	29.03	737.3	29.96	761 0	79.7	26.5	57	W			1		0			0	0	Clear	M. Marlot, Director.
Bourges, Normal School	29.59	751.6	30.12	765.1	73.8	23.2	52	E			1		2kn		E	0	0	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.72	754.9	29.97	761.1	78.8	26.0	51	SSE			2		3		SE	0	0	Stormy	The Staff.
Carcassonne, Normal School	29.61	752.2	30.00	762.1	82.4	28	51	N			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.48	748.9	30.03	762.7	77.7	25.4	91	SE			2		3		E	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.82	757.4	30.13	765.2	75.6	24.2	60	S			1		5	N	N	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.71	729.3	30.00	762.0	79.9	26.6	47	SE			1				SW	0	0		Alluard, Director.
Commercy, Normal School	29.29	743.9	30.14	765.5	72.7	22.6	55	E			6		2kn		E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*	29.00	736.5	30.14	765.5	84.7	29.3	35	SW			4		2		S	0	0	¼ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.84	757.8	30.04	763.0	77.7	25.4	51	E			3		10		E	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.78	756.5	30.08	764.1	76.1	24.5	50	SE			1		5		SE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.17	740.9	30.04	763.0	79.0	26.1	49	NNE			1		2		NE	0	0	Slightly cl'dy	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					73.8	23 2	74	NE			1		0			0	0	Clear	M. Galzin, Director.
Mirecourt, Normal School	29.11	739.4	30.13	765.2	71.2	21.8	67	NW			1		2s		SW	0	0	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	29.86	758.4	30.10	764.4	89.2	31.8	62	E			2		0			0	0	Clear	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	29.06	738.1	30.07	763.8	81.7	27.6	41	N			1	c		N	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.33	643.3			55.6	13.1	77	S			2					0	0		Alluard, Director.
Rochefort, Naval Obs'y	30.09	762.1	30.04	762.9	81.5	27.5	35	E			3		0			1.34	34.	Clear	M. Giguel, Director.
Rouen, Normal School	30.04	762.9	30.12	765.0	77.7	25.4	45	SSE			1		5		SE	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)			30.04	762.9	74.8	23.8	48	SSE			1		5		SSE	0	0	Cloudy	M. H. Hercouet.
Tarbes, Normal School	28.95	735.3	29.98	761.6	75.2	24	67	WSW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.43	747.5	30.11	764.8	79.9	26.6	85	ESE			4		0			0	0	Clear	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	81 0	27.2										0.55	14.		L'Abbé Marchès.
Lyons			30.17	766.2	77.7	25.4	44						0			0	0		L. Jays.
Marseilles, Observatory			30.05	763.2	84.0	28.9	45	SW			1-2		1			0	0	Clear	The Staff.
Mont-Louis	24.99	634.8	30.31	769.8	72.0	22.2	44	WSW	13.0	5.83			1		E	0	0		M. Cave.
Nice			30.09	764.3	78.4	25.8	78	S			1		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.83	757.7	30.11	764.7	80.2	26.8	42	SSE			2		4		SSE	0	0		Marié Davy, Director
Perpignan			30.08	764.0	79.9	26.6	47	SE	11.2	5.00			0			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.72	577.2			57.0	13.9		SW			2		2			0	0	Clear	Gen'l de Nansou y
Saint Maur, (near Paris)	29.95	760.7	30.11	764.9	76.3	24.6	46	SE			1-2		3		ESE	0	0	Solar halo	E. Renou.
Toulouse, Observatory	29.34	745.2	30.07	763.6	84.2	29.0	30	SE			3-5		1			0	0		The Staff.
Tours																			C. Marquet.
Versailles, (near Paris)			30.17	766.2	77.0	25.0	35	SE			3		5			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.68	753.8	29.79	754.4	83.7	28.7	87	SE	7.4	3.3		6ck		W		0	0	Lightning	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.26	743.3	30.10	764.5	75.7	24.3	71	NW			1		4	NW		0	0		Prof. Dr. Hoh.
Berlin	29.96	761.0	30.13	765.2	74.6	23.6	52	NW			1		4			0.051	1.3		Prof. Arndt.
Breslau	29.57	751.1	30.10	764.6	71.4	21.9	62	N			2		3			0	0		Royal University Obs'y
Carlsruhe	29.70	754.4	30.11	764.9	76.1	24.5	62	E			3		9			0.339	8.6	Light clouds	Albert Senz.
Cassel	29.56	750.8	30.17	766.3	74.1	23.4	52	N			1		5	NW		0.384	9.76		Dr. H. Möhl.
Crefeld	29.98	761.6	30.15	765.7	77.0	25.0	44	SW			2		4k			0	0		Director Lose.
Emden	30.03	762.7	30.07	763.7	70.3	21.3	66	NW			1		0			0	0		Prof. Prestel.
Frankfort on the Main	29.83	757.6	30.18	766.5	76.8	24.9		N			2		6			0	0		Physical Society.
Friedrichshafen	28.71	729.2	30.09	764.3	73.0	22.8	60	NE			5		2	NE		0	0		M. Wilhelm.
Hamburg	30.05	763.3	30.12	765.0	72.1	22.3	67	WNW			3		7k			0	0	Cloudy.	Captain F. Hegemann.
Kiel	30.07	763.6	30.08	764.0	72.9	22.7	53	SW			4		7			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.96	760.9	30.04	762.9	75.2	24.0	57	E			2		4			0	0		Prof. E. Luther.
Köslin			30.07	763.7	66.7	19.3		NW			2		1			0	0		H. Müller.
Leipsic, Observatory	29.76	755.8	30.17	766.2	75.2	24.0	51	NW			2		5	WNW		0.264	6.7		Prof. Bruhns.
Memel, Naval School	30.02	762.5	30.07	763.7	68.5	20.3	62	WNW			2		3cs						Reinbrecht and Skalweit.
Neufahrwasser	30.05	763.3	30.07	763.7	69.1	20.6	73	NE			3		6	ENE		0	0		A. Lothes.
Posen	29.82	757.4	30.10	764.4	76.6	24.8	45	NNW			5		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.61	752.2	30.14	765.6	76.1	24.5	49	NE			2		6			0	0		Astronomical Observatory.
Stuttgart	29.21	742.0	30.12	765.0	75.2	24.0	51	E					4	E		0	0		Prof. Schoder.
Treves, (Trier)	29.50	749.4	30.03	762.7	76.6	24.8	45	W			3		8			0	0	Dense fog.	Prof. Flesch.
Weissenburg, (Bavaria)	28.66	728.0	30.12	765.0	72.7	22.6	60	E	0.9	0.4			3ck		E	0.118	3.0		Dr. Von Bebber.
Wustrow, Naval School	30.11	764.7	30.15	765.7	66.4	19.1	86	WSW			2		3			0	0		E. F. Schütz.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	747.9	29.82	757.4	86.5	30.3		NE			2.5							Clear	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Deesa	29.07	738.3	29.54	750.2	81.2	27.3	93	Calm					10		W	3.62	91.9	Drizzling	
Bombay	29.64	752.8	29.68	753.8	80.7	27.1	94	W	22	9.8			10	SSW	SW	0.82	20.8	Overcast	
Poona	27.71	703.8	29.72	754.8	74.2	23.4	87	W					10		W	0.27	6.9	Drizzling	
Lahore	28.71	729.2	29.42	747.4	92.1	33.4	62	E	1.2	0.5			3			0	0	Blue sky	
Belgaum	27.25	692.2	29.81	757.1	70.8	21.6	92	WNW	16	7.2			10		WNW	0.61	15.5	Showery	
Bangalore																			
Roorkee	28.58	726.0	29.45	748.1	90.8	32.7	58	Calm	3.6	1.6			3			0	0		
Agra	28.31	734.2	29.46	748.2	89.7	32.1	66	SE					3		E	0	0		
Trichinopoly																			
Nagpur	28.55	725.2	29.58	751.4	81.1	27.3	81	SW	8.7	3.9			6		E	0.26	6.6	D. clouds	
Madras																			
Lucknow																			
Allahabad	29.18	741.1	29.48	748.9	84.7	29.3	87	WSW	1.3	0.6			8	E	W	0.10	2.5	D. clouds	
Patna	29.32	744.8	29.60	749.3	86.2	30.1	82	E	2.8	1.2			6	E	E	0.28	7.1	D. clouds	
Hazaribagh	27.56	700.0	29.55	750.6	77.0	25.0	89	ESE	8.2	3.7			10			0.71	18.0	Raining	
Cuttack	29.50	749.3	29.58	751.4	81.5	27.5	83	Calm	2.7	1.2			10			0.19	4.8	Raining	
Calcutta (Alipore)	29.56	750.9	29.58	751.4	82.3	27.9	93	S	7.0	3.1			10	S		0	0	Overcast	
Goalpara	29.24	742.7	29.62	752.5	81.8	27.7	79	SSW	2.9	1.3			9			0.26	6.6	D. clouds	
Chittagong	29.59	751.6	29.68	753.9	79.9	26.6	91	SSE	6.5	2.9			10			0	0	Overcast	
Sibsagar	29.28	743.8	29.62	752.2	84.2	29.0	80	SW	4.7	2.1			10			0.21	5.3	D. clouds	
Rangoon																			
Jubbulpore	28.10	713.8	29.44	747.7	81.3	29.1	78	NW	3.8	1.7			10			0.12	3.0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.8 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.67	753.6	30.07	763.6	79.5	26.4	43	S	3.1	1.4	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.95	760.7	30.06	763.4	80.8	27.1	42	S	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.86	758.5	30.05	763.2	83.1	28.4	37	SW	0	0	.....	.....	1	.....	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.78	730.9	30.04	763.1	81.0	27.2	55	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.57	751 1	30.07	763.8	82.8	28.2	54	W	.....	.....	2	.....	1	NW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.19	741.3	30.06	763.4	79.9	26.6	59	SW	1.8	0.8	.....	.....	2	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.21	716.4	30.04	763.0	76.5	24.7	48	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.87	758.6	30.08	764.0	78.1	25.6	70	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.90	759.5	30.07	763.6	75.6	24.2	59	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.75	755.6	30.06	763.5	81.1	27.3	42	NE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.79	756.7	30.04	763.0	84.2	29.0	34	N	.....	.....	4	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.91	759.7	29.99	761.7	79 2	26.2	66	W	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.04	762.9	30.08	764.1	72.3	22.4	67	NW	.....	.....	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.58	725.8	30.08	763.9	72.1	22.3	53	NE	.....	.....	4	.....	2	.....	.....	0.295	7.5	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.81	757.1	29.98	761.4	87.4	30.8	36	N	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.80	756.9	29.99	761.8	82.9	28.3	54	WSW	.....	.....	4	.....	2	N	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.74	755.3	29.98	761.6	76.8	24.9	65	NNW	18.6	8.3	.....	.....	4	N	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.84	757.8	30.02	762.5	83.7	28.7	61	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.2	29.95	760.6	87.3	30.7	60	SW	13.0	5.8	.....	.....	2	E	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.78	756.4	30.02	762.6	82.0	27.8	61	E	4.8	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.95	760.7	30.02	762.6	81.0	27.2	75	E	.....	.....	4	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.45	748.1	30.01	762.2	82.4	28.0	57	SW	1.3	0.6	.....	.....	3	W	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.57	751.1	29.77	756.1	78.4	25.8	83	NE	3.5	1.6	.....	.....	1cs	.....	.....	0	0	Fair	
Tokei (Yeddo) Observatory	29.85	758.2	29.91	759.7	68.2	20.1	87	ESE	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	I. Arai, Director.
Tokei (Yeddo) University	29.89	756.9	29.99	759.4	68	20.0	87	ENE	4	1.8	.....	1c	.....	.....	.....	0	0	Fine	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.0	17.8	93	N	1.8	0.8	.....	4cs	4k	E	E	1.21	30.6	Cloudy	L. Castillo, A. E.
Guadalajara	25.08	637.1	30.04	762 9	58.6	14.8	89	Calm	0	0	.....	4	0	N	.....	1.65	42.0	½ cloudy	Prof. L. Perez.
Guanajuato	23.72	602.7	29.88	758.9	63.5	17.5	82	Calm	0	0	.....	5	0	.....	.....	0.28	7 0	½ cloudy	Prof. V. Fernandez
Leon	24.43	620.6	29.95	760 8	64.2	17.9	85	NW	0.9	0.4	.....	0	0	.....	.....	0.61	15.4	Fine	Prof. M. Leal.
Mexico	23.14	587.6	30.13	765.3	57.2	14.0	88	Calm	0	0	.....	7c	3sk	.....	.....	0.06	1.5	Covered	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.9	18.3	88	Calm	0	0	.....	0	2ks	.....	.....	0.28	7.1	Clear	M. V. de Leon, M. E
Puebla	23.38	593.8	29.98	761.5	59.4	15.2	85	Calm	0	0	.....	5c	4s	NW	.....	0.12	3.0	Cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Luis Potosi	29.89	758.1	29.89	759.2	77.9	25.5	83	S	5.1	2.3	.....	10cs	0	.....	.....	0	0	Covered	Prof. F. R. Bayly.
Vera-Cruz	24.25	615.1	30.06	763.4	61.0	16.2	32	E	0.9	0.4	.....	5	3	W	E	0	0	Cloudy	G. Barroeta, M. D.
Zacatecas	29.92	760.0	29.95	760 7	79.7	26.5	84	Calm	0	0	.....	5cK	4sk	.....	.....	0.21	5.4	Cloudy	Prof. J. Rossell.
Puebla, (Catholic Institute)	.....	.....	.....	.....	59.0	15.0	78	NNE	0.9	0.4	.....	0	9	.....	.....	0	0	Cloudy	J. A. Bonilla, M. E.
Morelia	23.25	590.9	29.99	761.9	58.1	14.5	85	SW	0.7	0.3	.....	1	1	.....	.....	0.28	7.0	Clear	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F L. Paramo,
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
San Juan E. Mi-hapam	28.38	720.9	30.01	762.2	78.8	26.0	76	SE	0.9	0.4	.....	0	3	.....	E	0.25	6.4	Clear	R. Banda, C. E.
.....	29.72	754.9	29.87	758.6	78.4	25.8	.....	Calm	0	0	.....	6cs	2nk	SW	N	0.25	6.3	Cloudy	Antonio Guerra y Guerra.

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,361,5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	30.15	765.9	30.15	765.9	73.6	23.1	.....	WNW	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Helder	30.09	764.3	30.15	765.7	.....	.....	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	30.13	765.3	30.13	765.3	68.7	20 4	.....	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	.....
Utrecht	30.14	765.6	30.14	765.6	73 9	23.3	89	W	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
.....	30.10	764.6	30.15	765.8	76.5	24.7	55	SW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v d Brink.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.91	759 7	29.97	761.1	65.8	18.8	75	W	11.9	5.3	.....	.....	2	.....	.....	0	0	.....	
Brönö	29.84	757.9	29.88	758.9	58.3	14.6	93	SW	7	3	.....	.....	10	.....	.....	0.394	10.0	Foggy	
Christiania	29.76	755.9	29.90	759.5	72 1	22.3	52	W	9	4	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.75	755.6	29.79	756.7	52.5	11.4	73	NE	4	2	.....	.....	10	.....	.....	0	0	... .	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.87	758.6	30.05	763.3	73.4	23.0	83	ENE	15.0	6.7	.....	.....	5	.....	.....	0.354	9.0	.....	Dr. J. A. Sampaio.
Campo Major	29.03	737.3	29.99	761.7	90.0	32.2	21	SSW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.05	763.2	30.11	765.4	76.5	24.7	67	WSW	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.4	30.05	763.2	76 8	24.9	55	SW	19.9	8.9	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.94	760.5	30.01	762.2	78.1	25.6	76	NE	12.5	5.6	.....	.....	5	.....	.....	1.772	45.0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias			.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 38° 20′, W. 24° 28′	3	.....	D. clouds.....	A. M. de Sande, Com'd.
India			.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 01′, E. 40° 42′	2	E	Blue sky.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	3	SW	D. Clouds ...	A. J. de Mattos, Com'd't
Rio Douro			.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07′, W. 23° 0′	2	NNE	Overcast.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 05′	1	E	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo			.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.62	752.4	30.03	762.8	66.9	19.4	89	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Light rain...	Astronomical Obs.
Wilna	29.65	753 0	30.05	763.2	73.0	22.8	43	S	2	1	.....	.....	2	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.86	758.4	30.10	764.4	70.2	21.2	45	WSW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weibrauch.
St. Petersburg	29.95	760.7	29.97	761.1	64.6	18.1	61	NW	18	8	.....	.....	4k	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.31	745.2	29.94	760.5	75.2	24.0	40	E	7	3	.....	.....	6k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	81.0	27.2	43	S	4	2	.....	.....	5cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.96	761 0	29.98	761.5	75.2	24.0	67	NNE	11	5	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.52	749.8	30.06	763 5	62.8	17.1	46	SSW	9	4	.....	.....	2ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.84	757.8	30.04	762.9	67.8	19 6	39	ENE	9	4	.....	.....	2c	.....	.....	Blank	Blank	.....	Meteorological Obs.
Archangel	29.69	754.1	29.71	754.6	49.8	9.9	89	WNW	18	8	.....	.....	8k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.56	725.3	29.92	759.9	73.6	23.1	64	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.04	763.0	29.96	760.9	76.8	24.9	32	Calm	0	0	.....	.....	8ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.54	750 2	29.80	756.9	59.4	15.2	51	W	9	4	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.68	728 5	29.62	752.3	48.7	9.3	54	W	31	14	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.52	749.8	29.74	755.5	78.6	25.9	42	NNE	20	9	.....	.....	8ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.00	711.3	29.58	751.3	86.7	30.4	63	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.09	738.8	29.58	751.3	73.2	22.9	26	NW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.21	741.8	29.48	748.8	72.3	22.4	52	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.47	748.6	29.61	752 2	74.3	23.5	91	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.97	761.2	30.07	763.8	83.5	28.6	56	SW	1.5	0.67	.....	.....	.....	.....	.....	0	0	Clear.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.87	758.8	29.93	760.2	94.6	34.8	44	SE	2.7	1.23	.....	2	1	W	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.6	.....	.....	86.2	30.1	44	SW	5.0	2.24	.....	.....	6	.....	.....	0	0	Clouds.....	Domingo Martin y Perez.
Madrid, Royal Observatory	27.82	706.7	29.87	758.7	94.8	34.9	29	S	7.4	3.33	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.89	759.3	30.04	762.9	89.9	31.6	53	ESE	6.2	2.78	.....	.....	.....	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.09	738.9	29.95	760 8	75.2	24.0	50	SW	8.5	3.80	.....	7	0	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.94	760.4	30.00	762.0	77.4	25.2	73	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.0	81.1	27.3	68	W	8.2	3.7	.....	0	0?	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.92	759.9	30.01	762.2	81.7	27.6	86	SE	2.2	1.00	.....	3cs	5k	SE	SE	1.427	36.25	D. clouds.....	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 p. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.75	755.7	29.79	756.7	65.8	18.8	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.77	756.1	29.82	757.4	73.8	23.2	50	SW	.....	.....	7	.....	7	.....	.....	0	0	.....	
Hernosand	29.79	756.6	29.82	757.4	75.2	24.0	56	S	.....	.....	6	.....	5	.....	.....	0	0	.....	
Stockholm	29.81	757.1	29.98	761.6	65.8	18.8	70	NW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Wisby	29.97	761.3	30.03	762.8	70.3	21.3	53	SSW	.....	.....	4	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.87	758.7	29.95	760.6	74.7	23.7	40	S	12.5	5.6	.....	.....	5	SW	.....	0.001	0.03	.....	Nils Ekholm.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.72	729.6	30.10	764.5	72.7	22.6	63	NNW	.....	.....	2	.....	1	.....	.....	0	0	Clear	The Observatory.
Zurich	28.53	724.7	30.10	764.6	74.8	23.8	57	NE	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.8 mm.; Thermometer, +0.4 cent.; Relative Humidity, +9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.93	760.1	72.9	22.7	60	ENE	11	5.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.6	75.6	24.2	.....	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.56	750.8	29.68	753.8	92.3	33.5	54	WSW	.....	.....	3	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.50	749.3	29.57	751.1	68.9	20.5	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.17	740.9	29.46	748.3	66	18.9	.....	S	1	0.4	.....	.....	10n	.....	W	1.41	35.8	Raining	W. R. Bigg.
*Chatham, N B	29.57	751.1	29.63	752.6	64	17.8	83	SW	5	2.2	.....	0	0	.....	.....	Inap.	Inap.	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.62	752.3	29.66	753.4	66	18.9	81	SW	8	3.6	.....	0	0	.....	.....	0.140	3.56	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.38	746.2	29.56	750.8	65.0	18.3	94	SW	.....	.....	1	.....	10s	.....	.....	0.338	8.58	Overcast	James Smith, M. A
Dalhousie, N. B	29.44	747.8	29.60	751.8	63.4	17.5	85	W	.....	.....	1	.....	.....	.....	.....	0.29	7.4	Fine	H. A. Johnson.
Esquimault, B. C	30.09	764.3	30.13	765.3	50.3	10.2	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.51	749.5	29.54	750.3	61	16.1	88	Calm	0	0	.....	0	Haze	.....	.....	0.18	4.6	Hazy	J. McWilliams.
Fredericton, N. B	29.59	751.6	29.65	753.1	68.1	20.1	78	S	6	2.7	.....	1c	0	.....	.....	0.01	0.3	Clear.	Prof. Harrison.
*Fort Garry Manitoba	29.02	737.1	29.82	757.4	58	14.4	94	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	28.55	725.2	29.59	751.6	70	21.1	95	W	.....	.....	2	5k	0	E	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.58	751.3	29.71	754.6	66	18.9	83	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.24	742.7	29.59	751.6	73.7	23.2	82	W	.....	.....	3	3ck	0	NW	.....	0.52	13.2	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.61	752.1	29.63	752.6	61	16.1	85	SW	.....	.....	2	.....	10	.....	.....	0.04	1.0	Cloudy	E. Weedon.
*Kingston, Ontario	29.18	741.2	29.50	749.3	67	19.4	94	SW	18	8.0	.....	.....	10n	.....	SW	2.21	56.1	Heavy rain.	S. Woods, M. A.
Little Glace Bay, N. S	29.69	751.8	29.64	752.8	71.0	21.7	.....	W	12	5.4	.....	2k	0	W	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.34	745.2	29.53	750.0	66	18.9	90	S	15	6.7	.....	.....	10n	.....	W	0.05	1.3	Heavy rain.	C. H. McLeod, C. E
*Parry Sound, Ontario	28.83	732.3	29.48	748.8	70	21.1	90	W	17	7.6	.....	2ck	0	W	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	28.79	731.3	29.50	749.3	70.2	21.2	90	SW	.....	.....	2	0	0	.....	.....	0.64	16.3	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	28.96	735.6	29.61	752.1	73	22.8	85	W	12	5.4	.....	10k	0	W	.....	Inap.	Inap.	Cloudy	H. Morgan.
Port Hastings, N. S	29.64	752.8	29.69	754.1	60.5	15.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.02	737.1	29.63	752.6	70	21.1	92	W	8	3.6	.....	.....	8ks	.....	NW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.24	742.7	29.55	750.6	63	17.2	89	NE	.....	.....	1	.....	10n	.....	NE	0	0	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	28.99	736.3	29.45	748 0	64	17.8	94	NW	4	1.8	.....	5ck	0	NW	.....	0.02	0.5	Fair	W. H. McIntyre.
St. Andrews, N. B	29.60	751.8	29.65	753.1	62	16.7	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.53	750.0	29.69	754.1	62	16.7	88	S	9	4.0	.....	0	0	.....	.....	0.95	24.1	Clear	G. Murdock, C. E.
*Saugeen, Ontario	28.89	733.8	29.57	751.1	70	21.1	79	NW	24	10.7	.....	0	Sm'e	.....	.....	0	0	Smoky	K. Stewart.
Stayner, Ontario	29.78	756.4	29.52	749.8	71	21.7	90	W	10	4.5	.....	2c	0	W	.....	0.44	11.2	Fair	R. J. Cole.
Stratford, Ontario	29.37	746 0	29.58	751.3	71.0	21.7	87	NW	12	5.4	.....	4k	5s;ks	NW	.....	0	0	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	29.64	752.8	29.67	753.6	72	22.2	74	SW	9	4.0	.....	0	2ks	.....	W	Inap.	Inap.	Clear	T. C. Hill.
*Toronto, Ontario	29.17	740.9	29.53	750.0	73	22.8	76	W	11	4.9	.....	5cs	2s	W	W	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Montgomery.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	68.0	20.0	84	SW	.....	.....	.....	3k	3s	.....	.....	0.19	4.8	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.41	747.0	29.62	752.3	70	21.1	85	SE	8	3.6	.....	.....	10s	.....	SW	0.13	3.3	Threatening	
Alpena, Michigan	28.98	736.1	29.59	751.6	67	19.4	74	NW	10	4.5	.....	Haze	Haze	.....	.....	Inap.	Inap.	Hazy	
Atlantic City, New Jersey	29.78	756.4	29.80	756.9	72	22.2	90	SW	8	3.6	.....	0	Haze	.....	Calm	0	0	Hazy	
Augusta, Georgia	29.76	755.9	29.93	760.2	85	29.4	68	E	2	0.9	.....	2c	Haze	Calm	.....	0	0	Hazy	
Baltimore, Maryland	29.72	754.9	29.77	756.1	74	23.3	81	SW	8	3.6	.....	5k	2s	NW	Calm	0	0	Fair	
Barnegat, New Jersey	29.76	755.9	29.78	756.4	77	25.0	77	SW	16	7.2	.....	0	Haze	.....	Calm	0	0	Clear.	
Bismarck, Dakota	28.20	716.3	30.06	763.5	63	17.2	67	E	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Boerne, Texas	28.53	724.6	.....	.....	82	27.8	52	SE	1	0.4	.....	5k	0	SE	.....	0	0	Clear.	
Boise City, Idaho	27.22	691.4	30.10	764.5	56	13.3	56	S	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Fair	
Boston, Massachusetts	29.55	750.6	29.70	754.4	71	21.7	80	W	9	4.0	.....	.....	10s	.....	W	1.32	33.5	Cloudy	
Brackettville, Texas	28.79	731.3	29.76	755.9	79	26.1	78	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Breckenridge, Minnesota	28.92	734.6	29.89	759.2	57	13.9	94	NW	4	1.8	.....	10k	0	NW	.....	0	0	Cloudy	
Brownsville, Texas	29.88	758.9	29.95	760.7	83	28.3	79	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	28.90	734.0	29.55	750.6	75	23.9	77	SW	20	8.9	.....	1k	5ks	W	W	0.36	9.1	Fair	
Burkes, Arizona	.....	.....	.....	.....	88	31.1	49	SE	.....	.....	1	2ck	0	E	.....	0	0	Fair	
Burlington, Vermont	29.36	745.7	29.60	751.8	65	18.3	89	S	6	2.7	.....	.....	10n	.....	W	0.56	14.2	Light rain	
Cairo, Illinois	29.56	750.8	29.93	760.2	83	28.3	79	SW	5	2.2	.....	8cs	0	Calm	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	79	Calm	.....	.....	0	0	5ks	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	65	18.3	84	N	.....	.....	1	2c	2s	N	Calm	0.26	6.6	Fair	
Camp Verde, Arizona	26.75	679.4	30.24	768.1	77	25.0	57	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Campo, California	27.40	696.0	29.96	761.0	54	12.2	79	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.94	760.5	29.94	760.5	79	26.1	82	S	9	4.0	.....	0	0	.....	.....	0.02	0.5	Clear	
Cape Henry, Virginia	29.89	759.2	29.92	760.0	73	22.8	90	SW	18	8 0	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	29.93	760.2	29.94	760.5	83	28.3	83	SW	16	7.2	.....	2k	0	E	.....	0.32	8.1	Fair	
Cape May, New Jersey	29.79	756.7	29.82	757.4	75	23.9	85	S	12	5.4	.....	2ck	0	NW	.....	0	0	Fair	
Castroville, Texas	29.17	740.9	29.83	757.7	80	26.7	87	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.91	759.7	29.98	761.5	86	30.0	80	S	7	3.1	.....	0	5ks	.....	SW	0	0	Fair	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	64	17.8	73	NW	12	5.4	.....	0	8s	.....	NW	0.28	7.1	Cloudy	
Chicago, Illinois	29.08	738 6	29.72	754.9	74	23.3	76	W	7	3.1	.....	8c	0	Calm	.....	0.11	2.8	Fair	
Cincinnati Ohio	29.16	740.7	29.77	756.1	78	25.6	73	W	5	2.2	.....	6cs; k	0	W;NW	.....	0.04	1.0	Fair	
Cleveland, Ohio	29.09	736.6	29.67	753.6	75	23.9	68	W	14	6.3	.....	0	5ks	.....	W	0.01	0.3	Fair	
Columbus, Ohio	28.96	735.6	29.75	755.6	73	22.8	81	W	6	2.7	.....	2ck	0	W	.....	1.01	25.7	Fair	
Concho, Texas	28.04	712 2	29.64	752 8	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.47	748.5	29.92	760.0	77	25.0	91	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.15	740.4	29.75	755.6	73	22.8	85	N	2	0.9	.....	8ks	1s	W	Calm	0.32	8.1	Cloudy	
Denison, Texas	29.14	740.1	29.89	759.2	81	27.2	74	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.81	630 2	30.03	762.7	69	20.6	56	SE	4	1.8	.....	.....	8s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.02	737.1	29.81	757.9	79	26.1	70	NW	.....	.....	1	.....	10n	.....	NW	0.31	7.9	Light rain	
Detroit, Michigan	29.03	737.3	29.65	753.1	72	22.2	85	W	4	1.8	.....	.....	10s	.....	W	0.01	1.3	Cloudy	
Dodge City, Kansas	27.30	693.4	29.45	748 0	74	23.3	68	S	8	3.6	.....	2c	0	W	.....	0	0	Fair	
Dubuque, Iowa	29.12	739.6	29.78	756.4	71	21.7	62	N	2	1.3	.....	10ck	Haze	NW	Calm	0	0	Cloudy	
Duluth, Minnesota	29.16	740.7	29.81	757.2	65	18.3	68	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.20	741.7	29.90	759.4	79	26.1	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.60	751.8	29.65	753.4	66	18.9	79	S	12	5.4	.....	5ck	Fog	W	S	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	80	26.7	49	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	28.94	735.1	29.60	751 8	75	23.9	72	SW	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Escanaba, Michigan	29.07	738.4	29.69	754.1	65	18.3	73	NW	9	4.0	.....	0	0	.....	.....	0.38	9.7	Clear	
Florence, Arizona	.....	.....	.....	.....	85	29 4	57	Calm	.....	.....	0	.....	10s	.....	E	0.02	0.5	Cloudy	
Fort Craig, New Mexico	25.52	648.2	29.58	751.3	70	21.1	75	NE	6	2.7	.....	0	0	.....	.....	0.20	5.1	Clear	
Fort Davis, Texas	25.20	640.1	30.16	766.1	75	23.9	59	W	3	1.3	.....	2k	0	E	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.38	746.2	29.88	758.9	77	25.0	86	E	2	0.9	.....	5c	Haze	NE	Calm	0	0	Fair	
Fort Griffin, Texas	28.66	728.0	29.87	758.7	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	29.81	729.2	29.76	755.9	78	25.6	73	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.92	760.0	29.96	761.0	84	28.9	79	SE	3	1.3	.....	2k	2ks	S	S	0	0	Fair	
Grand Haven, Michigan	29.10	739.1	29.71	754.6	75	23.9	64	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.05	737.9	29.78	756.4	75	23.9	81	SW	4	1.8	.....	8cs	0	W	.....	0.54	13.7	Fair	
Indianola, Texas	29.94	760.5	29.96	761.0	83	28.3	83	SW	8	3.6	.....	1k	0	Calm	.....	0.13	3.3	Clear	
Jacksboro, Texas	28.84	731.8	29.88	758.9	79	26.1	70	S	5	2.2	.....	1ck	0	S	.....	0	0	Clear	
Jacksonville, Florida	29.98	761.5	30.00	762.0	80	26.7	87	SW	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Keokuk, Iowa	29.22	742.2	29.70	756.7	77	25.0	77	W	6	2.7	.....	0	9s	.....	W	0.02	0.5	Cloudy	
Key West, Florida	29.97	761.2	30.00	762.0	85	29.4	72	SE	4	1.8	.....	1k	1ks	SE	Calm	0.02	0.5	Clear	
Kittyhawk, North Carolina	29.90	759.4	29.92	760.0	80	26.7	74	SW	8	3.6	.....	0	2s	.....	W	0	0	Fair	
Knoxville, Tennessee	28.99	736.3	29.95	760.7	72	22.2	80	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
La Crosse, Wisconsin	29.10	739.1	29.80	756.9	66	18.9	74	N	5	2.2	.....	10ck	0	W	.....	0.15	3.8	Cloudy	
La Mesilla, New Mexico	26.65	661.7	30.20	767.1	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.46	748.3	29.79	756.7	82	27 8	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.85	631.2	30.12	765.0	68	20.0	60	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.03	737.3	29.82	757.4	80	26.7	78	SW	2	0.9	.....	10cs	0	NW	.....	0	0	Cloudy	
Los Angeles, California	29.53	750.0	29.86	758.4	64	17.8	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.31	744.5	29.83	757.7	81	27.2	78	SW	7	3.1	.....	8c	0	Calm	.....	Inap	Inap.	Fair	
Lynchburg, Virginia	29.20	741 7	29.83	757.7	79	26.1	65	W	4	1.8	.....	0	2ks	.....	Calm	0	0	Clear	
Marquette, Michigan	29.00	736.6	29.66	753.4	68	20.0	60	NW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.31	719.1	29.97	761.2	80	26.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.65	753.1	29.95	760.7	80	26.7	74	SW	1	0.4	.....	5c	Sm'e	SW	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.06	738.1	29.75	755 6	69	20.6	70	NW	12	5.4	.....	10cs	0	.....	.....	0	0	Cloudy	
Mobile, Alabama	29.96	761.0	30.00	762 0	81.5	27.5	65	SE	3	1.3	.....	0	Haze	.....	.....	0.15	3.8	Clear	
Montgomery, Alabama	29.74	755.4	29.97	761.2	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.78	731.0	29.76	755.9	78	25.6	65	S	9	4.0	.....	5c	0	W	.....	0	0	Fair	
Mt. Washington, N. H.	23.68	601.5	30.04	763.0	48	8.9	100	NW	40	17.9	.....	.....	10n	.....	NW	0.35	8.9	Light rain	
Nashville, Tennessee	29.43	747.5	29.94	760.5	81	27.2	78	W	1	0.4	.....	2c	5s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.62	752.3	29.73	755.1	77	25.0	69	SW	10	4.5	.....	8cs	Haze	S	.....	0	0	Fair	
New London, Connecticut	29.70	754.4	29.75	755.6	73	22.8	90	SW	6	2.7	.....	0	8s	.....	W	0	0	Fair	
New Orleans, Louisiana	29.92	760.0	29.97	761.2	84	28.9	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.69	754.1	29.74	755.4	71	21.7	85	SW	13	5.8	.....	10cs	0	.....	.....	Inap	Inap.	Cloudy	
New York, New York	29.60	751.8	29.76	755.9	73	22.8	85	SW	14	6.3	.....	1cs	2ks;hz	Calm	sW;Calm	0	0	Fair	
Norfolk, Virginia	29.85	758.2	29.90	759.4	76	24.4	82	S	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	26.99	685.5	29.41	747.0	71	21.7	85	NE	4	1.8	.....	8k	2ks	NW	Calm	0.13	3.3	Cloudy	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	47	8.3	100	Calm	0	0	.....	.....	Fog	.....	Calm	6	0	Foggy	
Omaha, Nebraska	28.72	729.5	29.73	755.1	73	22.8	85	S	4	1.8	.....	.....	10n	.....	SW	0.77	19.6	Light rain	
Oswego, New York	29.25	742.9	29.55	750.6	74	23.3	76	SW	10	4.5	.....	.....	10s	.....	SW	0.02	0.5	Cloudy	
Pembina, Dakota	29.09	738.9	29.89	759.2	56	13.3	87	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Philadelphia, Pennsylvania	29.72	754 9	29.76	755.9	76	24.4	81	SW	17	7.6	.....	5ck	Haze	NW	Calm	0	0	Fair	
Phœnix, Arizona	28.73	729.7	.....	.....	86	30.0	51	SW	.....	.....	1	0	8ks	.....	SW	0	0	Fair	
Pike's Peak, Colorado	18.07	475 0	30.28	769.1	38	3.3	54	S	6	2 7	.....	.....	10s	.....	S	0.03	0.8	Cloudy	
Pioche, Nevada	24.16	613.6	29.92	760.0	66	18.9	61	S	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Pittsburg, Pennsylvania	28.95	735.3	29.70	754.4	77	25.0	69	W	10	4.5	.....	5k	0	NW	.....	0	0	Fair	
Port Huron, Michigan	28.99	736.3	29.60	751.8	75	23.9	77	W	12	5.4	.....	10k	0	NW	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Maine	29.60	751.8	29.65	753.1	68	20.0	79	SW	8	3.6	.....	8k	2s	Calm	Calm	0	0	Cloudy	
Portland, Oregon	30.08	764.0	30.19	766.8	53	11.7	100	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Prescott, Arizona	24.86	631.4	30.22	767.6	62	16.7	46	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	83	28.3	79	NE	2	0.9	.....	2ck	0	Calm	.....	0	0	Clear	
Red Bluff, California	29.51	749.5	29.86	758.4	72	22.2	42	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	28.96	735.6	29.52	749.8	76	24.4	73	W	11	4.9	.....	5k	0	W	.....	0.51	13.0	Fair	
Roseburg, Oregon	29.57	751.1	30.14	765.5	50	10.0	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.78	756.4	29.86	758.4	63	17.2	62	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.33	745.0	29.87	758.7	78	25.6	78	SW	5	2.2	.....	2c	2s	Calm	Calm	0.04	1.0	Fair	
St. Marks, Florida	29.99	761.7	30.10	762.0	80	26.7	91	W	4	1.8	.....	0	0	.....	.....	0.23	5.8	Clear	
St. Paul, Minnesota	29.01	736.8	29.80	756.9	65	18.3	73	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	74	23.3	51	N	2	0.9	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
San Antonio, Texas	29.24	742.7	29.79	756.7	79	26.1	91	SE	1	0.4	.....	5k	0	SE	.....	0	0	Clear	
San Diego, California	29.81	757.9	29.91	759.7	66	18.9	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.08	738.6	29.71	754.6	74	23.3	76	SW	18	8.0	.....	1k	0	SW	.....	0	0	Clear	
Sandy Hook, New Jersey	29.72	754.9	29.75	755.6	78	25.6	73	W	18	8.0	.....	2c	0	W	.....	0	0	Fair	
San Francisco, California	29.84	757.9	29.90	759.4	55	12.8	84	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	60	15.6	49	NE	1	0.4	.....	1c	0	Calm	.....	0	0	Clear	
Savannah, Georgia	29.87	758.7	29.96	761.0	86	30.0	76	SW	8	3.6	.....	5c	Haze	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.73	755.1	29.94	760.5	80	26.7	87	S	3	1.3	.....	2k	0	E	.....	0	0	Fair	
Silver City, New Mexico	24.32	617.7	.....	.....	66	18.9	68	N	10	4.5	.....	0	0	.....	.....	Blank	Blank	Clear	
Smithville, North Carolina	29.93	760.2	29.98	761.0	82	27.8	83	SW	12	5.4	.....	0	5ks	.....	SW	0.22	5.6	Fair	
Springfield, Massachusetts	29.51	749.5	29.64	752.8	71	21.7	85	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	26.89	683.0	29.89	759.2	73	22.8	42	SE	5	2.2	.....	2k	Haze	Calm	Calm	0	0	Fair	
Thatcher's Island, Mass.	29.64	752.8	29.69	754.1	64	17.8	89	SW	7	3.1	.....	5c;cs	5s	SW	W	0.30	7.6	Cloudy	
Toledo, Ohio	29.03	737.3	29.66	753.4	76	24.4	73	SW	12	5.4	.....	0	5ks	.....	W	0	0	Fair	
Tucson, Arizona	27.33	694.2	29.88	758.9	80	26.7	74	Calm	0	0	.....	5k	0	Calm	.....	0.40	10.2	Fair	
Tybee Island, Georgia	29.91	760.5	29.97	761.2	84	28.9	75	SW	9	4.0	.....	5cs	Haze	NE	Calm	0	0	Fair	
Umatilla, Oregon	29.72	754.9	.....	.....	57	13.9	58	SE	4	1.8	.....	0	Haze	.....	SE	0	0	Fair	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	81	27.2	78	Calm	0	0	.....	Haze	0	.....	.....	0	0	Fair	
Virginia City, Montana	24.43	620.5	29.91	759.7	65	18.3	49	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.53	750.0	29.89	759.2	61	16.1	66	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.70	754.4	29.80	756.9	75	23.9	83	S	10	4.5	.....	2ck	5s	W	Calm	0	0	Cloudy	
Wilmington, N. Carolina	.....	.....	.....	.....	80	26.7	59	Calm	.....	.....	0	2k	8ks	Calm	Calm	0	0	Cloudy	
Winnemucca, Nevada	29.87	758.7	29.94	760.5	81	27.2	86	SW	6	2.7	.....	8c	0	E	.....	0.11	2.8	Fair	
Wood's Holl, Mass.	25.68	652.3	30.01	763.0	64	17.8	25	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	29.69	754.1	29.74	755.4	72	22.2	85	SW	12	5.4	.....	.....	10ks	.....	SW	0.19	4.8	Threatening	
Yuma, Arizona	28.60	726.4	29.83	757.7	69	20.6	90	NE	4	1.8	.....	8cs	0	W	.....	0.20	5.1	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	29.68	753.9	29.84	757.9	84	28.9	70	SE	8	3.6	.....	0	2s	.....	Calm	0	0	Fair	
York Factory, B. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Havana, Cuba. W. I.	29.88	758.9	29.93	760.2	55.5	13.1	94	E	5	2.2	.....	0	2s	.....	E	0	0	Fair	J. Fortescue, W. Wood.
St. Thomas	29.98	761.5	30.00	762.0	80	26.7	70	E	3.6	1.6	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Kingston, Jamaica, W. I.	.....	.....	.....	.....	82	27.8	79	NE	4	1.8	.....	2c	4s	E	.....	0	0	Clear	G. O. Gellich.
Navassa, W. I.	30.15	765.8	30.16	766.1	79	26.1	95	Calm	0	0	.....	.....	10n	.....	Calm	0.94	23.9	.....	James Gall.
Paramaribo, D. Guiana, S. A	29.90	759.4	29.98	761.5	84	28.9	.....	E	11.7	5.2	.....	.....	.....	.....	.....	6	0	Fair	F. M. Everett.
Batavia, Dutch Guiana, S. A	30.03	762.7	30.03	762.7	83	28.3	79	E	.....	.....	2	5k	6ks	E	.....	0.346	8.64	⅜ Cloudy	C. J. Hering.
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
	25.25	641.3	.....	.....	69.6	20.8	76	Calm	0	0	.....	.....	10s;ks	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,750 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.4 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,840 ft. or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,156.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.10 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15	765.8	84	28.9	84	28.9	63	SW	3	1.3	.....	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	29.66‡	753.4‡	.....	.....	69	20.6	85	SW	2	0.9	.....	.....	10	.....	.....	0.1	3.	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.89*	759.2*	74.5	23.6	73.2	22.9	76	ESE	.....	.....	1	.....	4c;ck	.....	N	0	0	.....	.....	Fair.....	
Adams. Apia, Samoan Islands	29 98	761.5	80	26.7	79	26.1	95	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Pleasant...	
Alliance, N. 48° 50′, W. 4° 40′	29.97‡	761.2‡	.....	.....	66	18.9	84	SW	.....	.....	1–2	.....	7	.....	SW	.....	.....	Light	W	Pleasant.....	
Ashuelot. Kobe, Japan	29.95	760.7	81	27.2	79	26.1	95	Calm	.....	.....	0	.....	5	.....	SSE	.....	.....	.....	.....	Bright.....	
Canonicus, New Orleans, La.	30.00	762.0	67	13.9	81	27.2	91	E	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.	29.71‡	754.6‡	.....	.....	76	24.4	71	SW	8	3.6	.....	.....	5	.....	SW	0	0	.....	.....	Light fog....	
Constitution, Havre, France	30.08‡	764.0‡	.....	.....	73	22.8	63	ENE	.....	.....	2	.....	4	.....	SW	.....	.....	.....	.....	Pleasant.....	
Despatch. Volo, Turkey	29.88‡	758.9‡	.....	.....	79	26.1	86	SE	.....	.....	3	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.	30.03	762.7	76	24.4	75	23.9	95	S	10	4.5	.....	.....	10	.....	S	0	0	.....	.....	Overcast....	
Gettysburg Villefranche, France	29.98‡	761.5‡	.....	.....	81	27.2	100	S	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.11	764.8	.....	.....	72	22.2	67	NNE	7.2	3.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	30.10	764.5	80	26.7	80	26.7	74	SSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Lake Superior	29.28	743.7	73	22.8	68	20.0	79	WSW	.....	.....	4	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy, Yokohama, Japan	29.88‡	758.9‡	.....	.....	74	23.3	76	SE	.....	.....	2–3	.....	5	.....	S	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.14†	765.5†	.....	.....	83	28.3	79	SW	11	4.9	.....	.....	5	.....	SW	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	60	15.6	68	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	29.90‡?	759.4‡?	.....	.....	76	24.4	86	SSW	.....	.....	2	.....	8	.....	W	0	0	.....	.....	Fair	
Palos, Tientsin, China	29.65	753.1	76	24.4	75	23.9	90	N	.....	.....	3	.....	10	.....	N	.....	.....	.....	.....	Overcast....	
Pensacola, Mare Island, California	29.97	761.2	63	17.2	57	13.9	100	SW	8	3.6	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y.	29.75‡†	755.6‡†	.....	.....	74	23.3	90	SW	.....	.....	2	.....	2	.....	S	.....	.....	.....	.....	Pleasant....	
Ranger. Macao, China	30.02	762.5	86	30.0	86	30.0	88	WSW	.....	.....	2–3	.....	10	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas	29.91	759.7	81	27.2	81	27.2	91	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Santee, Annapolis, Md.	29.75‡	755.6‡	.....	.....	80	26.7	70	SW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.76	755.9	77	25.0	77	25.0	82	SW	12	5.4	.....	.....	2	.....	WSW	0	0	.....	.....	Fair.....	
Supply, Havre, France	30.16	766.1	72	22.2	74	23.3	65	SE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass.	29.65‡	753.1‡	.....	.....	69	20.6	85	WSW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Misty.....	
Trenton, Cherbourg, France	30.06‡	763.5‡	.....	.....	74	23.3	72	ESE	.....	.....	2	.....	4	.....	S;E	0	0	.....	.....	Fair	
Tuscarora, Acapulco, Mexico	29.75	755.6	79	26.1	78	25.6	86	Calm	.....	.....	0	.....	8	.....	Calm	2.7	69.	.....	.....	Cloudy.....	
Vandalia, Naples, Italy	29.93‡	760.2‡	.....	.....	81	27.2	78	WSW	.....	.....	2	.....	2	.....	SW	.....	.....	.....	.....	Hazy.....	
Wabash, Boston, Mass.	29.69‡	754.1‡	.....	.....	71	21.7	85	SW	8	3.6	.....	.....	10	.....	Calm	1.40	35.6	.....	.....	Cloudy.....	
Wyoming, N. 40° 43′, W. 68° 58′	29.82†	757.4†	.....	.....	64	17.8	94	WSW	.....	.....	4–5	.....	5	.....	wsw	.....	.....	Smooth	.....	D. clouds....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 15′, E. 168° 24′		30.08*	764.0*	70	21.1	95	SSE			4		9		SE	2 hours	Light	SE	Foggy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, Yokohoma, Japan		29.79	756.7	72	22.2	65	ENE	7	3.1			5		SE				D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Seattle, W. T.		30.13†	765.3†	57	13.9	81	Calm			0		0			0	0		Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.60*	754.1*	80	26.7		WSW			2				WSW	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, Queenstown, Ireland		30.02†	762.5†	66	18.9	94	SSE			4		5		SSE	0			D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 41° 18′, W. 163° 14′		30.04*	763.0*	64	17.8	78	W			4		n		W		Mod'ate	WNW	Raining	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 30° 09′, E. 121° 33′		29.75	755.6	79	26.1	100	ENE			3–0		7		ENE		3	ENE	Raining	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 49° 40′, W. 24° 22′		30.05*	763.3*	63	17.2	89	NNW			2		6		WNW	Light	Light	NNW	Squally	Captain Sargent.
S. S. Ohio, N. 41° 23′, W. 66° 35′		29.76	755.9	74	23.3	81	SW			3		7?		SW	0	Light	SW	Clear?	Captain Morrison.
S. S. Pennsylvania, N. 39° 33′, W. 69° 48′		29.86†	758.4†	82	27.8	91	SW			3		1		SW	0	Light	SW	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 38° 46′, W. 71° 44′		29.92*	760 0*				SSW	20	8.9			0				Slight	SW	Clear	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.17*	766.3*	49.0	9.4	80	E			2	0	0						Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'o, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assgd.,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 10, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. Ollive.
Nemours	.....	.....	29.99	761.7	83.5	28.6	61	N	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Kesxuche.
Algiers	.....	.....	29.90	759.5	87.1	30.6	63	W	.....	.....	8	.....	3	.....	.....	Inap.	Inap.	Pretty fair.	Tourillere.
La Calle	.....	.....	29.95	760.8	82.6	28.1	75	ENE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	29.97	761.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.04	763.0	89.6	32.0	.....	NNE	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Gau.
Saida	.....	.....	30.08	763.9	96.8	36.0	24	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.97	761.2	99.0	37.2	.....	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Watrin.
Geriville	.....	.....	30.11	764.7	95.4	35.2	.....	SE	.....	.....	6	.....	4	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.07	763.6	102.6	39.2	20	W	.....	.....	6	.....	2	.....	.....	0	0	Fair	Bertrand.
Biskra	.....	.....	29.99	761.7	103.6	39.8	23	ESE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.39	746.5	29.91	759.8	78.8	26.0	44	S	.....	.....	1	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozu
Cracow	29.20	741.6	29.93	760.1	71.6	22.0	74	NE	.....	.....	1	.....	8	.....	.....	0.506	12.86	.....	Prof. Dr. Karlinski.
Eperies	29.03	737.4	29.87	758.8	71.6	22.0	80	Calm	.....	.....	0	.....	9c;s	.....	S	0.431	10.95	.....	Julius Mikolik.
Gratz	28.71	729.3	29.91	759.8	73.9	23.3	67	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.49	723.7	29.86	758.5	70.5	21.4	79	S	.....	.....	2	.....	10	.....	.....	0.039	1.00	.....	Prof. Reissenberg
Krentmünster	28.55	725.2	29.84	757.8	72.3	22.4	58	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.91	734.4	29.87	758.6	69.1	20.6	79	NE	.....	.....	1	.....	9	.....	.....	0.807	20.5	.....	Dr. T. Stanecki.
Pola	29.85	758.3	29.96	761.0	79.0	26.6	63	WNW	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.42	747.2	29.87	758.8	65.8	18.8	94	SW	.....	.....	3	.....	10	.....	.....	0.339	8.6	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.88	759.0	29.98	761.6	81.7	27.6	48	W	.....	.....	1	.....	1	.....	.....	0	0	Fair.	P. Busin.
Vienna	29.22	742.3	29.91	759.7	76.3	24.6	55	N	.....	.....	1	.....	3	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kronsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.37	720.5	29.80	756.9	74.1	23.4	59	E	.....	.....	5	.....	6	.....	.....	0.520	13.2	.....	Prof. M. Passau.
Brussels	29.53	750.1	29.72	754.9	78.6	25.9	50	S	.....	.....	3	8	2	SSW	SSW	0.555	14.10	.....	Royal Observatory
Furnes	29.74	755.3	29.76	755.9	72.5	22.5	73	W	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.	M. E. de Cae.
Maeseyck	29.67	753.7	29.80	756.9	80.2	26.8	57	S	.....	.....	4	.....	9	.....	.....	0.016	0.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.60	751.8	29.63	754.1	61.0	16.1	.....	SSE	17	7.6	.....	.....	9	.....	.....	0.805	20.45	Misty	W. Boswell.
Ardrossan	29.61	752.1	29.63	752.6	61	16 1	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	George Carrick.
Armagh, Observatory	.....	.....	29.68	753 9	64.7	18.2	.....	WNW	8	3.6	.....	.....	9	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.61	752.1	65.1	18.4	.....	ESE	6	2.7	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	29.53	750.0	29.72	754 9	67.1	19.5	.....	NW	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.25	742.9	29.64	752.8	61.6	16.4	.....	E	.....	.....	0	.....	10	.....	.....	0.32	8.1	Raining	J. McLandsborough.
Bridgetown, (Barbados)	30.01	762.2	30.04	763.0	80.5	26.9	.....	NE	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.66	753.4	66.0	18.9	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	H. Todd. [H. O.
Cardington	.....	.....	29.67	753.6	68.0	20.0	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder-storm	John McLaren.
Chatham, School M. E.	29.51	749.5	29.63	752.6	76.2	24.6	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.21	716.5	29.63	752.6	65.2	18.4	.....	NW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Alexander Watt. [Col. Mar-
Donaghadee	29.61	752.1	29.64	752.8	63	17.2	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan. [tin, R. E.
Dover	29.68	753.9	29.70	754.4	65	18.3	.....	WSW	.....	.....	2	.....	7	.....	.....	.....	.....	Drizzling	J. Costello.
Eccles, (near Manchester)	.....	.....	29.62	752.3	61.8	16 6	.....	SE	0.2	0.1	.....	.....	10	.....	.....	.....	.....	Gloomy	Thomas Mackereth.
Falmouth, Observatory	29.46	748.3	29.68	753.9	68.7	20.4	.....	NW	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds	The Staff.
Fort Napier, (Natal)	27.64	702.0	29.92	760.0	62.0	16.7	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.76	755.9	29.99	761.7	80	26.7	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.70	754.4	64	17.8	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Showery	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.94	760.5	29.99	761.7	79.9	26.6	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.45	748.0	29.65	753.1	63.1	17.3	.....	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Great Yarmouth	29.70	754.4	29.70	754.4	68	20.0	.....	WSW	.....	.....	1	.....	6	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.51	749.5	29.67	753.6	67.1	19.5	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy.
Guernsey	29.47	748.5	29.69	754.1	67	19.4	.....	WSW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.75	755.6	70	21.1	.....	NW	.....	.....	2	.....	2k	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.59	751.6	29.65	753.1	64	17.8	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.44	747.8	29.72	754.9	68.9	20.5	.....	W	.....	.....	3	.....	4	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	.....	.....	67.4	19 7	.....	S	10	4.5	.....	.....	10sd	.....	.....	.....	.....	Raining	The Staff.
Kingstown	29.63	752.6	29.66	753.4	66	18.9	.....	WNW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	.....	.....	29.63	752.6	65.6	18 7	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J Harrison, F.G.S.
Malta, (Mediterranean)	29.85	758.2	29.92	760.0	81.6	27.6	.....	NE	.....	.....	1	.....	2ck	.....	.....	.....	.....	D. clouds	H. J. Becket, A. H. C.
Nairn	29.56	750.8	29.64	752.8	64	17.8	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Overcast	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.04	763.0	84.5	29.2	.....	SE.	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	C. S. Duncombe.
Nottingham, Observatory	29.45	748.0	29.63	752.6	65.7	18.7	.....	S	.....	.....	1	.....	10n	.....	S	0.381	9.68	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.12	739.6	29.63	752.6	65.1	18.4	.....	SSW	.....	.....	2	.....	10	.....	.....	Blank	Blank	Misty	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.65	753.1	70	21.1	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.59	751.6	29.67	753.6	68.5	20.3	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.70	754.4	29.74	755.4	65	18.3	.....	N	.....	.....	5	.....	5	.....	.....	Blank	Blank	Cloudy	W. Kennedy.
Saint Ann's Head	29.59	751.6	29.65	753.1	64	17.8	.....	NW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.67	753.6	59	15.0	.....	ESE	27	12.1	.....	.....	10	.....	.....	.....	.....	Drizzling	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.74	755.4	83.0	28.3	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.38	746.2	29.65	753.1	62.8	17.1	.....	NW	.....	.....	1	.....	10	.....	.....	0.38	9.7	Raining	W. F. Cooper.
Silloth, Rectory	29.69	751.8	29.63	752.6	63.0	17.2	82	SW	.....	.....	1	.....	8	.....	.....	0.245	6.23	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.24	742.7	29.65	753.1	62.2	16 8	.....	ENE	.....	.....	0	.....	10	.....	.....	.....	.....	Raining	W. C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	29.52	749.8	29.55	750.6	59	15.0	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining	John Sutherland.
Strathfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S.
Thurso	.....	.....	29.65	753.1	59	15.0	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy	John Trotter.
Truro, Royal Institution	.....	.....	29.73	755.1	72	22.2	.....	NW	.....	.....	8	.....	6	.....	.....	.....	.....	D. clouds	W. Newcombe.
Valencia, Observatory	.....	.....	29.82	757.4	62.4	16.9	.....	WNW	18	8.0	.....	.....	7	.....	.....	.....	.....	D clouds	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.14	740.1	55 0	12.8	87	NW	.....	.....	3	.....	1kn	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.90	759.4	30.09	764.2	72.3	22.4	78	ESE	5.5	2.5	.....	0	6	.....	ESE	0.01	0.3	Cloudy	C. Meldrum.
Melbourne, Observatory	29.55	750.6	29.64	752.8	53.5	11.9	61	NNE	20	8.9	.....	.....	4	.....	W	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngelause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria, N. 53° 0′ W. 5° 5′	.....	.....	29.61	752.1	65	18.3	.....	SW	.....	.....	2	.....	4	.....	.....	10*	.....	Misty	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 58° 50′, W. 50° 40′	.....	.....	29.79	756.7	46	7.8	.....	ESE	.....	.....	6	.....	7	.....	.....	5	.....	D. clouds	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schooner Traveller, N. 41° 25′, W. 68° 40′	.....	.....	29.71	754.6	67	19.4	.....	W	.....	.....	4	.....	8	.....	.....	4	SSW	D. clouds	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected. *Feet.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR,

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			
San José	26.26	667.0			67.1	19.5	95	NE			1	7ck				Inap.	Inap.		Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.87	758.7	29.92	759.9	70.2	21.2	62	SSW			2		1						
Fanöe	29.84	757.9	29.86	758.4	72.1	22.3	56	SSE			4		1						
Godthaab, (Greenland)	29.79	756.6	29.83	757.7	47.5	8.6	78	NE			2		4						
Stykkisholm, (Iceland)	29.61	752.0	29.65	753.1	49.6	9.8	87	E			4		8						
Thorshavn, (Faröe)	29.62	752.4	29.66	753.3	54.1	12.3	93	SE			2		10						
Vestervig	29.71	754.6	29.88	758.9	68.4	20.2	73	WSW			2		0						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.26	743.2	29.81	757.2	69.8	21	91	SW			1		10			0.067	1.70	Covered	Collignon, Director.
Amiens, Normal School																			Bouvallet, Director.
Avignon, Normal School	29.87	758.6	29.95	760.6	84.9	29.4	44	SSW			2		0			0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.24	742.8	29.82	757.4	66.6	19.2	80	S			1		10		SW	0	0	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.49	749.0	29.76	756.0	70.9	21.6	77	SW			1		8		SW	0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.03	737.3	29.87	758.6	68.4	20.2	49	SSW			6		10		SW	0	0	Covered	Normal School.
Bourg-en-Bresse, N. School	29.06	738.0	29.98	761.6	71.6	22	71	S			3		5k		S	0	0	Cloudy	M. Marlot, Director.
Bourges, Normal School	29.39	746.4	29.92	759.9	68.0	20	81	SW			2		5n		SW			Thunder-storm	A. Wagner, Director.
Brest, Naval Observatory	29.45	748.0	29.69	754.2	70.2	21.2	73	W			4		8		W	0.039	1.00	Squally	The Staff.
Carcassonne, Normal School	29.47	748.6	29.87	758.7	73.4	23	66	NW			2		5		NE	0	0	Cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.17	740.9	29.71	754.7	68.9	20.5	96	S			3		10		N	0.63	16.	Heavy rain	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'	29.53	750.1	29.84	757.9	67.6	19.8	90	Calm			0		10			0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.55	725.1	29.87	758.6	66.2	19.0	88	SW			1				SW	0	0		Alluard, Director.
Commercy, Normal School	28.98	736.2	29.83	757.6	73.4	23	66	SW			3		10kn		SW	0	0	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.88	733.6	30.02	762.6	76.6	24.8	45	SE			2		8		S	0	0	¾ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. Schoo	29.65	753.2	29.86	758.4	69.6	20.9	75	W			4		8		W	0.236	6.0	Very cloudy	Mouillot, Director.
Le Mans, Normal School	29.47	748.5	29.77	756.1	69.3	20.7	85	W			3		8		W	0.246	6.25	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.09	736.6	29.88	758.9	73.2	22.9	71	SW			2		10		N	Inap.	Inap.	Raining	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					70.3	21.3	80	Calm			0		10			0	0	Covered	M. Galzin, Director.
Mirecourt, Normal School	28.83	732.3	29.82	757.5	78.1	25.6	64	SW			3		10ks		E	0	0	Covered	M. Barbier, Director.
Nismes, Normal School	29.76	756.0	30.00	761.9	88.2	31.2	62	S			2		2		S	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	28.94	735.0	29.95	760.8	79.2	26.2	48	S			3		n	N	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.13	638.2			54.9	12.7	100	WSW			3				W	0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.87	758.6	29.90	759.4	69.6	20.9	60	WSW			4		10		WSW	0.24	6.	Covered	M. Giguel, Director.
Rouen, Normal School	29.65	753.0	29.73	755.1	70.3	21.3	75	SSE			1		10		S	0	0	Covered	F. Lucard, Director.
Saint Malo (Port)			29.69	754.2	71.1	21.7	60	SSW			3		1		SW	0.044	1.12	Clear	M. H. Hercouet.
Tarbes, Normal School	28.97	735.9	30.03	762.8	64.4	18	80	SW			2		10			0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.24	742.7	29.92	760.0	76.1	24.5	83	SE			3		8		S	0	0	Very cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	81.0	27.2										0.63	16.		L'Abbé Marchès.
Lyons			29.97	761.1	72.9	22.7	55						8			0.012	0.3		L. Jays.
Marseilles, Observatory			29.94	760.5	83.7	28.7	34	ESE			1–2		3			0	0		The Staff.
Mont-Louis	24.93	633.1	30.24	768.1	73.4	23.0	39	SSE	22.4	10.00			2		S	0	0		M. Cave.
Nice			30.00	762.0	78.4	25.8	76	SSE			1		2			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.49	749.0	29.76	756.0	69.8	21.0	90	S			3		10		SW	Inap.	Inap.		Marie Davy, Director
Perpignan			29.94	760.4	82.6	28.1	54	NW	14.9	6.66			2		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.61	574.7			55.4	13.0		SW			3		7			0	0	Fair	Gen'l de Nansouty
Saint Maur, (near Paris)	29.60	751.8	29.76	756.0	71.4	21.9	69	SSW			1		10		SSW	0.102	2.6	Solar halo	E. Renou.
Toulouse, Observatory	29.33	745.0	30.06	763.4	67.5	19.7	96	SW			2		9			0.094	2.40	Thunder-storm	The Staff.
Tours	29.58	751.3	29.78	756.3	66.6	19.2	90	SW			4		10		WNW	0.335	8.5		C. Marquet.
Versailles, (near Paris)			29.78	756.3	70.9	21.6	62	SW			1		10			0.011	0.29	Light rain	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.74	755.3	29.76	756.0	75.2	24.0	96	W	0.2	0.1			10			0.016	0.4	Stormy	Marc Decheyrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low't 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06	738.0	29.89	759.2	80.6	27.0	75	SE			2		5	S		0.08	2.	Raining	Prof. Dr. Hoh.
Berlin	29.78	756.5	29.95	760.7	76.6	24.8	46	S			1		2			0	0		Prof. Arndt.
Breslau	29.48	748.8	30.01	762.3	75.0	23.9	62	SSE			2		3			0	0		Royal University Obs'y
Carlsruhe	29.40	746.8	29.80	757.0	79.5	26.4	56	NE			1		9			0	0	Light clouds	Albert Senz.
Cassel	29.26	743.3	29.87	758.6	80.2	26.8	45	ESE			3		3	SW				Thunder-storm.	Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	84.2	29.0	35	SE			5		3cs			0	0		Director Lose.
Emden	29.64	752.8	29.68	753.8	77.4	25.2	62	SE			1		4			0	0		Prof. Prestel.
Frankfort on the Main	29.52	749.8	29.86	758.5	80.6	27		S			5		5			0	0		Physical Society.
Friedrichshafen	28.49	723.6	29.87	758.6	71.2	21.8	73	S			1		2	SSW		0.362	9.2		M. Wilhelm.
Hamburg	29.82	757.5	29.89	759.2	74.3	23.5	59	SE			4		8ck	SW		0	0	Fair	Captain F. Hegemann.
Kiel	29.86	758.5	29.88	758.9	73.2	22.9	58	E			1		6			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.89	759.1	29.97	761.1	72.1	22.3	63	SW			4		2			0.004	0.1		Prof. E. Luther.
Köslin			29.94	760.4	70.3	21.3		NW			2		2			0	0		H. Müller.
Leipsic, Observatory	29.55	750.5	29.95	760.7	79.2	26.2	44	S			2		4			0	0		Prof. Bruhns.
Memel, Naval School	29.91	759.6	29.95	760.8	69.1	20.6	75	SW			3		4ks						Reinbrecht and Skalweit.
Neufahrwasser	29.97	761.2	29.98	761.6	71.6	22.0	61	NNE			3		7	W		0	0		A. Lothes.
Posen	29.66	753.3	29.93	760.3	76.6	24.8	50	SW			2		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.31	744.4	29.83	757.6	81.7	27.6	51	S			2		9	SW		0	0		Astronomical Observatory.
Stuttgart	28.91	734.4	29.80	756.8	81.0	27.2	42	S					10			0	0		Prof. Schoder.
Treves, (Trier)	29.17	740.8	29.68	753.9	80.6	27.0	50	S			5		6			0.445	11.37		Prof. Flesch.
Weissenburg, (Bavaria)	28.43	722.1	29.87	758.8	75.9	24.4	46	SE	6.0	2.7			8ck			0	0		Dr. Von Bebber.
Wustrow, Naval School	29.95	760.6	29.98	761.6	66.7	19.3	81	W			2		3			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.5	83.1	28.4		NE			6.5		k					Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Deesa	29.04	737.6	29.51	749.5	80.2	26.8	95	W					10		W	1.72	43.7	Overcast	
Bombay	29.59	751.5	29.62	752.5	79.7	26.5	93	W	21	9.4			10		WSW	0.21	5.3	Overcast	
Poona	27.66	702.6	29.67	753.5	74.0	23.3	85	WNW					10		WNW	0.18	4.6	Drizzling	
Lahore	28.74	730.1	29.48	748.7	83.0	28.3	83	E	3.3	1.5			9			0	0	D. clouds	
Belgaum	27.19	690.6	29.74	755.3	71.1	21.7	94	W	14	6.3			10		W	0.14	3.6	Drizzling	
Bangalore																			
Roorkee	28.59	726.2	29.48	748.6	83.4	28.6	83	NE	2.9	1.3			6			0.16	4.1		
Agra	28.94	735.0	29.49	748.6	90.7	32.6	67	S					8			0	0		
Trichinopoly																			
Nagpur	28.47	723.2	29.51	749.5	79.6	26.4	91	SW	6.1	2.7			10		NE	0.60	15.2	Drizzling	
Madras																			
Lucknow																			
Allahabad	29.17	740.8	29.47	748.6	83.2	28.4	91	Calm	1.1	0.5			8	SW		0.65	16.5	D. clouds	
Patna	29.35	745.4	29.53	749.9	86.6	30.3	81	E	1.7	0.8			4	E	E	0.33	8.4	D. clouds	
Hazaribagh	27.54	699.5	29.53	750.1	77.8	25.4	86	E	7.4	3.3			9		E	2.06	52.3	Raining	
Cuttack	29.48	748.9	29.57	751.0	80.0	26.7	91	SSW	1.4	0.6			10			0.07	1.8	Raining	
Calcutta (Allpore)	29.56	750.8	29.58	751.3	78.2	25.7	98	SE	3.0	1.3			10		SE			Raining	
Goalpara	29.22	742.0	29.60	751.8	84.7	29.3	76	S	2.4	1.1			1			0.20	5.1	D. clouds	
Chittagong	29.58	751.4	29.68	753.8	78.9	26.1	94	Calm	5.7	2.6			10			0.82	20.8	Raining	
Sibsagar	29.26	743.2	29.59	751.5	87.4	30.8	75	S	2.1	0.9			5			0	0	D. clouds	
Rangoon																			
Jubbulpore	28.08	713.1	29.42	747.3	78.8	26.0	85	SW	4.2	1.9			10			0.13	3.3	Raining	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.58	751.3	29.97	761.3	80.1	26.7	55	S	1.3	0.6	.....	.....	5	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.85	758.1	29.95	760.8	81.9	27.7	39	SW	6.3	2.8	.....	.....	2	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.76	756.0	29.95	760.7	82.8	28.2	45	SW	2.5	1.1	.....	.....	4	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.67	728.2	29.94	760.4	82.4	28.0	44	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. Trioulini Carlo.
Milan	29.46	748.3	29.96	760.9	83.3	28.5	43	NE	.....	.....	1	.....	4	NW	.....	0.020	0.5	.....	Prof. Schiaparelli.
Moncalieri	29.07	738.4	29.94	760.5	79.5	26.4	56	SW	5.6	2.5	.....	.....	4	SE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.08	713.3	29.92	759.9	78.1	25.6	49	WNW	.....	.....	4	.....	7	S	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.77	756.2	29.98	761.6	78.4	25.8	62	ESE	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.81	757.1	29.97	761.3	79.9	26.6	61	S	.....	.....	2	.....	1	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.63	752.6	29.94	760.4	81.3	27.4	34	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.71	754.6	29.95	760.8	87.8	31.0	28	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.87	758.6	29.95	760.7	81.0	27.2	52	WSW	4.3	1.9	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.92	760.0	29.97	761.1	78.6	25.9	56	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.49	723.7	30.00	761.9	77.0	25.0	44	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.80	756.9	29.97	761.2	87.3	30.6	38	SW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.78	756.5	29.98	761.4	81.4	29.1	45	SW	.....	.....	6	.....	2	NE	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.67	753.5	29.91	759.8	77.2	25.1	48	N	15.4	6.9	.....	.....	2	N	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.75	755.6	29.93	760.3	82.2	27.9	61	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.07	738.3	29.91	759.7	86.9	30.5	62	SW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.74	755.4	29.98	761.6	79.7	26.5	62	ENE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	759.0	29.96	760.9	82.9	28.3	66	SE	.....	.....	2	.....	4	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.41	747.1	29.97	761.2	84.0	28.9	48	WSW	5.6	2.5	.....	.....	2	NW	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 558 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.64	752.8	29.84	757.9	79.1	26.2	85	WNW	1.4	0.6	.....	.....	Sc;cs	.....	.....	0	0	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory	29.96	761.0	30.02	762.5	66.4	19.1	91	NE	4.4	2.0	.....	0	0	.....	.....	0	0	Clear	
Tokei (Yeddo) University	29.92	760.0	30.02	762.4	66	18.9	97	N	3.5	1.6	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Barcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	63.5	17.5	61	N	5.1	2.3	.....	0	10k	.....	N	0.54	13.8	Covered	L. Castillo, A. E.
Guadalajara	25.07	636.3	30.02	762.5	59.0	15.0	82	NW	1.8	0.8	.....	0	9	.....	SE	0.26	6.6	Very cloudy	Prof. L. Perez.
Guanajuato	23.70	602.2	29.85	758.2	64.4	18.0	86	Calm	0	0	.....	9	0	.....	.....	0.03	0.8	Very cloudy	Prof. V. Fernandez
Leon	24.41	619.9	29.92	760.0	64.8	18.2	84	NW	0.9	0.4	.....	1c	0	E	.....	Inap.	Inap.	Clear	Prof. M. Leal.
Mexico	23.11	586.9	30.08	763.9	58.5	14.7	87	NW	2.9	1.3	.....	0	10k	.....	.....	0.02	0.4	Covered	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	61.3	16.3	91	W	0.9	0.4	.....	0	6ks	.....	SW	0.27	6.9	Cloudy	M. V. de Leon, M. E
Puebla	23.40	594.3	30.06?	763.1?	55.2	12.9	95	ENE	3.4	1.5	.....	6c	4cs	.....	.....	0.41	10.4	Cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.88	758.9	29.89	759.2	78.8	26.0	83	S	5.1	2.3	.....	0	10k	.....	S	0	0	Overcast	Prof. F. R. Bayly.
San Luis Potosi	24.21	614.8	30.10	764.5	64.0	17.8	79	ESE	0.9	0.4	.....	5	1	E	ESE	0	0	½ cloudy	G. Barroeta, M. D.
Vera-Cruz	29.91	759.8	29.94	760.5	80.6	27.0	84	Calm	0	0	.....	3cs	6kn	.....	.....	0.25	6.4	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	88	NNE	5.1	2.3	.....	0	8	.....	.....	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.22	589.9	29.95?	760.9?	54.7	12.6	83	NE	0.4	0.2	.....	3	2	.....	.....	0.26	6.5	Foggy	Prof. P. Spina, [M.M. D. D
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.36	720.2	29.98	761.5	78.6	25.9	86	E	1.8	0.8	.....	0	9	.....	NE	0.84	21.2	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	29.70	754.3	29.84	758.0	78.8	26.0	.....	NE	0.9	0.4	.....	0	10k	.....	NW	0	0	Very cloudy	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,363.5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.73	755.2	29.73	755.2	79.7	26.5	.....	ESE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Groningen	29.74	755.5	29.80	756.9	77.4	25.2	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.74	755.3	29.74	755.3	74.3	23.5	.....	E	.....	.....	3	.....	.....	.....	.....	0.106	2.7	.....	
Hellevoetsluis	29.73	755.2	29.73	755.2	77.5	25.1	74	ESE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.73	754.8	29.76	756.0	79.5	26.4	83	SSE	.....	.....	3	.....	5	.....	.....	0.004	0.1	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.79	756.7	29.85	758.1	68.0	20.0	50	NW	2.5	1.1	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.77	756.2	29.81	757.2	55.8	13.2	87	WSW	9	4	.....	.....	9	.....	.....	0.016	0.4	.....	
Christiania	29.64	752.8	29.78	756.3	76.6	24.8	46	SW	7	3	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.60	751.7	29.64	752.8	48.2	9.0	68	NE	13	6	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.00	762.0	30.15	766.7	73.8	23.2	82	SE	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.06	738.2	30.03	762.8	85.1	29.5	36	WSW	5.6	2.5	.....	.....	3	NW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.08	763.9	30.16	766.1	77.2	25.1	68	SE	5.6	2.5	.....	.....	1	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.4	30.13	765.3	76.3	24.6	52	NW	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.09	764.2	30.16	766.0	76.6	24.8	74	NE	12.5	5.6	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44′, W. 25° 38′	.....	.....	30.10	764.4	77.0	25	.....	E	.....	.....	4	.....	6	.....	NE	2	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 15° 06′, E. 40° 52′	.....	.....	29.99	761.8	76.3	24.6	.....	S	.....	.....	5	.....	2	.....	S	5	.....	Blue sky	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.08	763.9	59.0	15.0	.....	SW	.....	.....	2	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07′, W. 23° 0′	.....	.....	30.00	762.1	84.2	29.0	.....	SE	.....	.....	2	.....	9	.....	S	2	SE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.99	761.7	71.8	22.1	.....	W	.....	.....	1	.....	10	.....	E	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.56	750.8	29.97	761.1	74.1	23.4	70	Calm	0	0	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.52	749.9	29.92	760 0	75.4	24.1	46	WSW	2	1	.....	.....	9	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.58	751.3	29.81	757.2	73.4	23.0	37	W	9	4	.....	.....	7k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.74	755.5	29.76	755.9	68.5	20.3	54	NNW	7	3	.....	.....	2ck	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.32	747.7	29.92	760.0	75.2	24.0	43	ESE	7	3	.....	.....	4k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.2	29.96	761.0	80.6	27.0	48	SSE	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.88	759 0	29.9 0	759.5	75.0	23.9	75	NE	13	6	.....	.....	1	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.45	747.7	29.97	761.1	71.4	21.9	50	S	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.82	757.3	30.01	762.3	74.5	23.6	39	E	9	4	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.58	751.3	29.60	751.8	52.7	11.5	71	WNW	9	4	.....	.....	9k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.57	725.7	29.94	760.5	71.1	21.7	67	SE	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.09	764.2	30.00	762.1	77.5	25.3	42	E	4	2	.....	.....	6ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.51	749.5	29.77	756.1	69.1	20.6	51	WSW	4	2	.....	.....	6	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.63	727.3	29.57	751.0	52.5	11.4	48	WNW	18	8	.....	.....	7k;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.64	752.8	29.87	758.6	72.1	22.3	66	NNW	7	3	.....	.....	7ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.17	715.6	29.80	756.9	74.8	23.8	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.18	741.1	29.68	753.9	63.1	17.3	39	WNW	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.26	743.2	29.54	750.3	58.8	14.9	82	WSW	13	6	.....	.....	9	.....	.....	.....	.....	Thunder-storm.	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.52	749.7	29.63	753.3	79.7	26.5	89	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 45° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.83	757.7	29.93	760.2	84.2	29	59	SSW	4.0	1.78	.....	.....	3c;ck	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.02	762.6	30.08	764.0	74.1	23.4	64	NW	3.6	1.62	.....	2	6	SW	.....	0	0	Almost cov.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.13	689.2	.....	.....	77.0	25.0	54	SW	6.9	3.10	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.1	29.87	758.7	91.9	33.3	26	W	12.7	5.67	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.8	97.0	36.1	32	S	1.9	0.86	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.22	742 3	30.10	764.5	70.2	21.2	62	NW	7.4	3.33	.....	.....	8	.....	.....	0.413	10.5	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.2	29.99	761.9	79.2	26.2	80	E	4.3	1.9	.....	1ck;cs	0	.....	.....	0.118	3.0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.98	761.5	30.08	764.0	76.8	24.9	68	WSW	13.8	6.2	.....	2	4	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	760.8	30.04	763.1	81.7	27.6	83	SE	2.2	1.00	.....	2s	0	SE	.....	0.138	3.50	Clear	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.58	751 2	29.61	752.2	64.4	18.0	.....	N	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.62	752.4	29.67	753.7	61.2	16.2	96	N	.....	.....	2	.....	7	.....	.....	0.091	2.3	.....	
Hernosand	29.65	753 2	29.71	754 5	73.0	22 8	44	WNW	.....	.....	4	.....	5	.....	.....	0.197	5.0	.....	
Stockholm	29.63	752.5	29.80	757.0	68.9	20.5	60	WNW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.82	757.3	29.87	758.8	66.6	19.2	74	W	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.69	754.1	29.76	756.0	72.7	22.6	53	NW	7.2	3.2	.....	.....	8	.....	NNW	0.011	0.28	.....	Nils Ekholm.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.53	724.6	29 89	759.3	74.8	23.8	70	SSW	.....	.....	1	.....	9	.....	.....	0	0	Covered	The Observatory.
Zurich	28.29	718.6	29.84	758.0	81.0	27.2	60	W	.....	.....	1	.....	2	.....	.....	0.197	5.0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.2 mm.; Thermometer, +1.7 cent.; Relative Humidity, +16 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.82	757.4	74.5	23.6	66	NE	25	11.0	.....	.....	6	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.03	762.8	78.3	25.7	.....	W	.....	.....	2	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.51	749.5	29.63	752.5	92.1	33.4	55	SW	.....	.....	3	.....	2k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.30	744.2	29.37	746.0	66 2	19.0	93	NW	1	0.4	.....	8k	0	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.38	746.2	29.67	753.6	71	21.7	.....	SW	3	1.3	.....	0	2s	.....	W	0.02	0.5	Clear.	W. R. Bigg.
*Chatham, N B	29.33	745 0	29.39	746.5	68	20.0	87	SW	10	4.5	.....	8ck	2ks	W	SW	0.13	3.3	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.43	747.5	29.47	748.5	67	19.4	92	S	12	5.4	.....	.....	10s	.....	Calm	0.346	8.64	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.45	748.0	29.63	752 6	68.2	19.0	84	NW	.....	.....	2	0	7s	.....	.....	0.130	3.30	Fair	James Smith, M. A
Dalhousie, N. B	29.20	741.7	29.36	745.7	64.2	17.9	100	W	.....	.....	1	.....	.....	.....	.....	0.40	10.2	Clearing	H. A. Johnson.
Esquimault, B. C	30.06	763.5	30.11	764.8	52.3	11.3	86	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.38	746.2	29.40	746.7	54	12.2	95	Calm	0	0	.....	.....	Fog	.....	.....	2.09	53.1	Light rain	J. McWilliams.
Fredericton, N. B	29.43	747.5	29.49	749.0	69.3	20.7	71	NW	12	5.4	.....	0	3s	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	29.11	739.4	29.92	760.0	58	14.4	94	N	5	2.2	.....	2c	2s	N	N	0.070	1.78	Fair	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Granton, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
*Halifax, N. S	28.72	729.5	29.78	756.4	66	18.9	94	W	.....	.....	1	.....	10n	.....	.....	Inap.	Inap.	Overcast	James Grant.
Hamilton, Ontario	29.39	746.5	29.51	749.5	68	20.0	72	SW	12	5.4	.....	.....	10n	.....	SW	0.302	7.67	Cloudy	F. Allison, M. A.
Heart's Content, N. F	29.44	747.8	29.80	756.9	66.7	19.3	78	W	.....	.....	2	8ck	0	NW	.....	0	0	Cloudy	Geo. Dickson, M. A.
*Kingston, Ontario	29.73	755.1	29.76	755.9	65	18.3	84	SW	.....	.....	1	.....	10	.....	.....	0	0	Cloudy	E. Weedon.
Little Glace Bay, N. S	29.37	746.0	29.69	754.1	66	18.9	84	W	8	3.6	.....	5cs	0	W	.....	0.45	11.4	Fair	S. Woods, M. A.
*Montreal, Quebec	29.54	750.3	29.58	751.3	69.0	20.6	.....	Calm	0	0	.....	.....	10n	.....	.....	0.22	5.6	Showery	C. H. Rigby.
*Parry Sound, Ontario	29.43	747.5	29.62	752.3	66	18.9	79	S	8	5.6	.....	2k	0	.....	.....	0.25	6.3	Fair	C. H. McLeod, C. E
Peterboro, Ontario	29.07	738.4	29.73	755.1	67	19.4	87	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario	28.94	735.1	29.65	753.1	69.1	20.6	77	W	.....	.....	5	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Hastings, N. S	29.13	739.9	29.80	756.9	64	17.8	89	Calm	0	0	.....	.....	10n	.....	SW	0	0	Threatening	H. Morgan.
Port Stanley, Ontario	29.41	747.0	29.46	748 3	58.6	14.7	.....	W	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
*Quebec, Quebec	29.19	741.4	29.81	757.2	66	18.9	89	NW	2	0.9	.....	2k	8n	W	W	Inap.	Inap.	Cloudy	M. Payne.
*Rockliffe, Ontario	29.19	741.4	29.50	749.3	63	17.2	89	W	.....	.....	4	5k	5s	W	W	0.54	13.7	Fair	Capt. Ashe, R. N
St. Andrews, N. B	29.24	742.7	29.67	753.6	67	19.4	79	NW	6	2.7	.....	0	0	.....	.....	0.03	0.8	Clear	W. H. McIntyre.
St. John, N. B	29.48	748.8	29.53	750.0	66	18.9	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.35	745.5	29.51	749.5	61	16.1	100	SW	5	2.2	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	G. Murdock, C. E.
Stayner, Ontario	29.07	738.4	29.75	755.6	68	20.0	75	W	17	7.6	.....	0	Sm'c	.....	.....	0	0	Smoky	K. Stewart.
Stratford, Ontario	28.96	735.6	29.71	754.6	66	18.9	78	NW	8	3.6	.....	2k	0	W	.....	0	0	Fair	R. J. Cole.
*Sydney, C. B	29.54	750.3	29.77	756.1	63.7	17.6	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.56	750.8	29.59	751.6	67	19.4	97	SW	6	2.7	.....	.....	10n	.....	SW	0.05	1.3	Cloudy	T. C. Hill.
Windsor, N. S	29.40	746.7	29.77	756.1	67	19.4	76	NW	9	4.0	.....	0	2ks	.....	W	0	0	Fair	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	66.0	18.9	79	S	.....	.....	.....	4k	4s	.....	.....	Inap.	Inap.	Cloudy	J. Montgomery.
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Upper 0–10.	CLOUDS. Amount. Lower 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.51	749.5	29.72	754.9	69	20.6	75	Calm	0	0	.....	10cs	0	W	.....	0.03	0.8	Cloudy	
Alpena, Michigan	29.13	739.9	29.74	755.4	65	18.3	73	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.80	756.9	29.82	757.4	73	22.8	90	W	2	0.9	.....	2ck	5s	W	Calm	0	0	Fair	
Augusta, Georgia	29.79	756.7	29.97	761.2	82	27.8	75	S	4	1.8	.....	Haze	0	.....	.....	0	0	Clear	
Baltimore, Maryland	29.76	755.9	29.80	756.9	81	27.2	74	Calm	0	0	.....	8k	Fog	NW	Calm	Inap.	Inap.	Foggy	
Barnegat, New Jersey	29.80	756.9	29.82	757.4	74	23.3	81	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	
Bismarck, Dakota	28.26	717.8	30.12	765.0	60	15.6	65	Calm	0	0	.....	0	8s	.....	W	0	0	Cloudy	
Boerne, Texas	28.44	722.4	.....	.....	78	25.6	42	SE	2	0.9	.....	5k	0	SE	.....	0	0	Fair	
Boise City, Idaho	27.19	690.6	30.07	763.8	58	14.4	53	S	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	
Boston, Massachusetts	29.56	750.8	29.71	754.6	71	21.7	66	W	15	6.7	.....	5cs	0	W	.....	2.72	69.1	Fair	
Brackettville, Texas	28.77	730.7	29.73	755.1	79	26.1	78	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.96	734.6	29.94	760.5	55	12.8	93	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.83	757.7	29.90	759.4	83	28.3	79	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.09	738.9	29.75	755.6	68	20.0	70	NW	5	2.2	0	2k	8s	W	W	0	0	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	86	30.0	51	Calm	.....	.....	.....	5cs	2ks	W	Calm	0	0	Fair	
Burlington, Vermont	29.42	747.3	29.66	753.4	69	20.6	70	W	2	0.9	.....	2ck	0	W	.....	0.51	13.0	Fair	
Cairo, Illinois	29.52	749.8	29.85	758.9	82	27.8	83	NW	1	0.4	1	5c	0	Calm	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	74	NE	.....	.....	1	0	2s	.....	Calm	0	0	Fair	
Camp Grant, Arizona	25.20	640.1	30.00	762.0	68	20.0	79	E	.....	.....	1	2c	0	Calm	.....	0	0	Clear	
Camp Verde, Arizona	26.73	678.9	30.22	767.6	74	23.3	81	E	.....	.....	0	5k	0	Calm	.....	0.18	4.6	Fair	
Campo, California	27.37	695.2	29.94	760.5	57	13.9	81	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.94	760.5	29.94	760.5	81	27.2	91	SW	19	8.5	.....	10cs	0	NW	.....	0	0	Cloudy	
Cape Henry, Virginia	29.84	757.9	29.87	758.7	83	28.3	79	SW	17	7.6	.....	10cs	0	SW	.....	0	0	Cloudy	
Cape Lookout, N. Carolina	29.94	760.5	29.96	761.0	83	28.3	87	SW	24	10.7	.....	8ck	0	SW	.....	0	0	Cloudy	
Cape May, New Jersey	29.81	757.2	29.84	757.9	79	26.1	73	NE	6	2.7	.....	5ck	0	Calm	.....	0	0	Fair	
Castroville, Texas	29.12	739.6	29.79	756.7	79	26.1	87	S	1	0.4	.....	0	8ks	.....	S	0	0	Cloudy	
Charleston, South Carolina	29.97	761.2	30.05	762.7	83	28.3	71	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.25	615.9	30.19	766.8	57	13.9	94	N	12	5.4	.....	.....	10s	.....	N	0	0	Threatening	
Chicago, Illinois	29.14	740.1	29.80	756.9	69	20.6	75	NW	4	1.8	.....	5cs	5s	Calm	NW	0	0	Cloudy	
Cincinnati, Ohio	29.20	741.7	29.81	757.2	78	25.6	73	W	4	1.8	.....	9k	0	NW	.....	0	0	Cloudy	
Cleveland, Ohio	29.12	739.6	29.81	757.2	68	20.0	74	SW	8	3.6	.....	.....	10ks	.....	W	0	0	Cloudy	
Columbus, Ohio	29.02	737.1	29.82	757.4	69	20.6	75	N	6	2.7	.....	.....	10s	.....	NW	0.01	1.0	Cloudy	
Concho, Texas	27.98	710.7	29.57	751.1	75	23.9	76	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.45	748.0	29.90	759.4	77	25.0	91	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.23	742.4	29.84	757.9	67	19.4	84	N	4	1.8	.....	4ks	7s	Calm	Calm	0	0	Cloudy	
Denison, Texas	29.11	739.4	29.86	758.4	82	27.8	71	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	25.01	635.0	30.22	767.6	59	15.0	88	W	4	1.8	.....	.....	10n	.....	Calm	0.55	14.0	Light rain	
Des Moines, Iowa	29.09	738.9	29.93	760.2	72	22.2	71	NW	.....	.....	1	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Detroit, Michigan	29.15	740.4	29.78	756.4	67	19.4	79	Calm	0	0	.....	5k	5s	W	Calm	0.01	0.3	Cloudy	
Dodge City, Kansas	27.42	696.5	29.93	760.2	65	18.3	100	NE	24	10.7	.....	.....	10n	.....	NE	1.73	43.9	Heavy rain	
Dubuque, Iowa	29.21	741.9	29.88	758.9	67	19.4	74	NW	2	0.9	.....	5cs	5s	N	Calm	0	0	Cloudy	
Duluth, Minnesota	29.19	741.4	29.85	758.2	62	16.7	77	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.15	740.4	29.87	758.7	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.46	748.3	29.52	749.8	68	20.0	70	SW	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
El Paso, Texas	.....	.....	.....	.....	82	27.8	52	W	8	3.6	.....	0	0	.....	.....	0.24	6.1	Clear	
Erie, Pennsylvania	29.08	738.6	29.75	755.6	72	22.2	76	Calm	0	0	.....	5ck	2s	W	.....	0.02	0.5	Cloudy	
Escanaba, Michigan	29.15	740.4	29.77	756.1	64	17.8	73	N	7	3.1	.....	5k	0	N	.....	0	0	Fair	
Florence, Arizona	.....	.....	.....	.....	77	25.0	91	Calm	.....	.....	0	2k	0	W	.....	0.20	5.1	Fair	
Fort Craig, New Mexico	25.52	648.2	29.58	751.3	72	22.2	75	SE	2	0.9	.....	.....	10s	.....	SW	0.07	1.8	Cloudy	
Fort Davis, Texas	25.19	639.8	30.15	765.8	69	20.6	75	NE	1	0.4	.....	2k	0	N	.....	0.23	5.8	Fair	
Fort Gibson, Indian Ter	29.35	745.5	29.85	758.2	79	26.1	82	E	3	1.3	.....	5cs	2ks	N	E	0	0	Fair	
Fort Griffin, Texas	28.62	726.9	29.83	757.7	74	23.3	81	Calm	0	0	.....	2ck	2s	Calm	Calm	0	0	Fair	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.67	728.2	29.71	754.6	78	25.6	78	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Galveston, Texas	29.89	759.2	29.93	760.2	83	28.3	79	SE	2	0.9	.....	2k	0	S	.....	0.03	0.8	Clear	
Grand Haven, Michigan	29.16	740.7	29.77	756.1	72	22.2	65	N	6	2.7	.....	5c	0	W	.....	0	0	Fair	
Indianapolis, Indiana	29.08	738.6	29.81	757.2	74	23.3	86	SW	2	0.9	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Indianola, Texas	29.90	759.4	29.93	760.2	86	30.0	80	S	5	2.2	.....	1k	0	Calm	.....	0.09	2.3	Clear	
Jacksboro, Texas	28.75	730.2	29.82	757.4	78	25.6	73	SE	6	2.7	.....	1ck	0	SE	.....	0	0	Clear	
Jacksonville, Florida	30.03	762.7	30.05	763.3	83	28.3	79	SW	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Keokuk, Iowa	29.24	742.7	29.82	757.4	72	22.2	85	N	3	1.3	.....	.....	10s	.....	N	0.22	5.6	Cloudy	
Key West, Florida	29.96	761.0	30.00	762.0	82	27.8	79	SE	10	4.5	.....	1c	5ks	Calm	SE	0.41	10.4	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.90	759.4	82	27.8	79	SW	16	7.2	.....	7cs	0	W	.....	0	0	Fair	
Knoxville, Tennessee	28.97	735.8	29.92	760.0	75	23.9	81	Calm	0	0	.....	3c	0	Calm	.....	0	0	Fair	
La Crosse, Wisconsin	29.16	740.7	29.86	758.4	68	20.0	74	W	4	1.8	.....	2c	0	W	.....	0	0	Clear	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	70	21.1	80	Calm	0	0	.....	2ck	2s	Calm	Calm	Inap.	Inap.	Fair	
Laredo, Texas	29.44	747.8	29.76	755.9	81	27.2	78	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	25.06	636.5	30.33	770.4	49	9.4	85	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.08	738.6	29.89	759.2	72	22.2	95	N	2	0.9	.....	.....	10n	.....	N	1.70	43.2	Light rain	
Los Angeles, California	29.54	750.3	29.87	758.7	64	17.8	83	Calm	0	0	.....	0	5s	.....	NE	0	0	Fair	
Louisville, Kentucky	29.34	745.2	29.87	758.7	72	22.2	95	NW	10	4.5	.....	.....	10n	.....	NW	0.88	22.4	Light rain	
Lynchburg, Virginia	29.20	741.7	29.84	757.9	78	25.6	69	SW	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.09	738.9	29.75	755.6	64	17.8	73	W	8	3.6	.....	.....	10s	.....	W	0	0	Cloudy	
Mason, Texas	28.28	718.3	29.93	760.2	79	26.1	73	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.61	752.1	29.91	759.7	81	27.2	67	S	2	0.9	.....	1c	5ks	SW	SW	0	0	Fair	
Milwaukee, Wisconsin	29.13	739.9	29.82	757.4	67	19.4	79	NW	4	1.8	.....	8c	0	NW	.....	0	0	Fair	
Mobile, Alabama	29.96	761.0	30.00	762.0	83	28.3	77	S	1	0.4	.....	5c;k	0	Calm	.....	0	0	Fair	
Montgomery, Alabama	29.76	755.9	29.98	761.5	83	28.3	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.83	732.3	29.81	757.2	78	25.6	69	SW	6	2.7	.....	10c	0	SW	.....	0	0	Cloudy	
Mt. Washington, N. H.	23.53	597.6	29.89	759.2	45	7.2	100	NW	45	20.1	.....	.....	Fog	.....	NW	1.07	27.2	Foggy	
Nashville, Tennessee	29.39	746.5	29.90	759.4	80	26.7	74	E	2	0.9	.....	.....	10s	.....	SW	0	0	Cloudy	
New Haven, Connecticut	29.68	753.9	29.78	756.4	73	22.8	63	W	3	1.3	.....	10cs	0	Calm	.....	0	0	Cloudy	
New London, Connecticut	29.72	754.9	29.77	756.1	71	21.7	75	Calm	0	0	.....	5ck	5s	SW	Calm	1.99	50.5	Cloudy	
New Orleans, Louisiana	29.90	759.4	29.93	761.0	84	28.9	79	S	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Newport, Rhode Island	29.71	754.6	29.75	755.6	71	21.7	66	W	14	6.3	.....	10k	0	W	.....	0.05	1.3	Cloudy	
New York, New York	29.63	752.6	29.80	756.9	73	22.8	67	W	6	2.7	.....	.....	10n	.....	W	Inap.	Inap.	Light rain	
Norfolk, Virginia	29.80	756.9	29.86	758.4	84	30.0	68	SW	10	4.5	.....	5cs	Haze	Calm	.....	0	0	Fair	
North Platte, Nebraska	27.23	691.6	29.72	754.9	65	18.3	78	NE	8	3.6	.....	5ck	0	NE	.....	0.22	5.6	Fair	
Olympia, Washington Ter.	30.09	764.3	30.13	765.3	48	8.9	109	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Omaha, Nebraska	28.90	734.0	29.94	760.5	65	18.3	89	N	6	2.7	.....	.....	10s	.....	Calm	1.04	26.4	Cloudy	
Oswego, New York	29.43	747.5	29.74	755.4	70	21.1	75	W	10	4.5	.....	8c	0	NW	.....	Inap.	Inap.	Fair	
Pembina, Dakota	29.16	740.7	29.97	761.2	54	12.2	93	NW	4	1.8	.....	0	2s	.....	NW	0.22	5.6	Clear	
Philadelphia, Pennsylvania	29.76	755.9	29.81	757.2	77	25.0	60	S	2	0.9	.....	8ck	Sm'e	W	Calm	0	0	Cloudy	
Phœnix, Arizona	28.72	729.5	.....	.....	82	27.8	71	SE	.....	.....	1	8c	0	SW	.....	0	0	Fair	
Pike's Peak, Colorado	18.08	477.5	30.29	769.4	33	0.6	109	NW	6	2.7	.....	.....	10n	.....	Calm	0.96	24.4	Light rain	
Pioche, Nevada	24.15	613.4	29.92	760.0	66	18.9	45	NW	4	1.8	.....	2k	0	Calm	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.04	737.6	29.80	756.9	74	23.3	72	NW	6	2.7	.....	0	10s	.....	W	0	0	Cloudy	
Port Huron, Michigan	29.14	740.1	29.76	755.9	69	20.6	75	W	4	1.8	.....	2cs	8ks	W	Calm	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Portland, Maine	29.58	751.3	29.63	752.6	70	21.1	70	W	12	5.4	.. ..	5k	Haze	W	.....	0.08	2.0	Fair	
Portland, Oregon	30.09	764.3	30.20	767.1	54	12.2	87	NW	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Prescott, Arizona	24.83	630.7	30.19	766.8	65	18.3	73	Calm	.....	.....	0	.....	10s	.....	Calm	0.41	10.4	Cloudy	
Punta Rassa, Florida	30.02	762.5	30.03	762.7	81	27.2	83	E	6	2.7	.....	2c	2ks	W	E	0	0	Fair	
Red Bluff, California	29.48	748.8	29.82	757.4	73	22.8	31	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.15	740.4	29.73	755.1	68	20.0	74	W	8	3.6	.....	.....	8ks	.....	W	0.06	1.5	Cloudy	
Roseburg, Oregon	29.59	751.6	30.16	766.1	53	11.7	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.74	755.4	29.82	757.4	67	19.4	55	SE	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.31	744.5	29.85	758.2	75	23.9	86	S	3	1.3	.....	.....	10s	.....	Calm	3.03	77.0	Cloudy	
St. Marks, Florida	30.02	762.5	30.04	763.0	77	25.0	91	Calm	0	0	.....	2ck	0	S	.....	0	0	Fair	
St. Paul, Minnesota	29.05	737.9	29.81	757.9	64	17.8	78	NW	7	3.1	.....	2k	0	Calm	.....	0	0	Fair	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	67	19.4	46	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.23	742.4	29.78	756.4	79	26.1	87	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.84	757.9	29.91	759.7	62	16.7	88	W	3	1.3	.....	0	5s	....	Calm	0	0	Fair	
Sandusky, Ohio	29.20	741.7	29.84	757.9	68	20.0	79	SW	11	4.9	.....	.....	10ks	.....	SW	0	0	Cloudy	
Sandy Hook, New Jersey	29.78	756.4	29.81	757.2	74	23.3	100	W	9	4.0	.....	.....	10n	.....	NW	Inap.	Inap.	Light rain	
San Francisco, California	29.80	756.9	29.86	758.4	55	12.8	87	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear	
Santa Fé, New Mexico	23.37	593.6	29.91	759.7	63	17.2	52	N	3	1.3	.....	5k	0	Calm	.....	0	0	Fair	
Savannah, Georgia	29.94	760.5	30.03	762.7	86	30.0	72	SW	8	3.6	.....	1c	Haze	Calm	Calm	0	0	Clear	
Shreveport, Louisiana	29.70	754.4	29.91	759.7	83	28.3	79	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.30	617.2	.....	.....	66	18.9	73	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Smithville, North Carolina	29.96	761.0	30.00	762.0	84	28.9	83	SW	19	8.5	.....	0	8ks	.....	SW	0	0	Cloudy	
Springfield, Massachusetts	29.58	751.3	29.70	754.4	72	22.2	71	SW	4	1.8	.....	5k	5ks	SW	SW	0.14	3.6	Cloudy	
Stockton, Texas	26.84	681.7	29.84	757.9	72	22.2	45	SE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.63	752.6	29.68	753.9	67	19.4	79	NW	17	7.6	.....	8c	0	W	.....	3.76	95.5	Fair	
Toledo, Ohio	29.14	740.1	29.78	756.4	70	21.1	80	S	6	2.7	.....	.....	10s	.....	S	0	0	Cloudy	
Tucson, Arizona	27.29	693.2	29.84	757.9	78	25.6	82	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Tybee Island, Georgia	30.00	762.0	30.03	762.7	83	28.3	79	SW	8	3.6	.....	5cs	0	NE	.....	0	0	Fair	
Umatilla, Oregon	29.69	754.1	.....	.....	58	14.4	42	SE	12	5.4	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	80	26.7	87	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.45	621.0	29.93	760.2	64	17.8	48	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.49	749.0	29.88	758.9	64	17.8	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.71	751.6	29.82	757.4	81	27.2	78	N	4	1.8	.....	2ck	5s	W	Calm	0.02	0.5	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	77	25.0	86	E	.....	.....	1	0	5ks	.....	S	0.60	15.2	Fair	
Wilmington, N. Carolina	29.88	758.9	29.95	760.7	83	28.3	83	SW	13	5.8	.....	10c;k	0	N;SW	....	0	0	Cloudy	
Winnemucca, Nevada	25.68	652.3	30.04	763.0	63	17.2	24	NE	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.68	753.9	29.73	755.1	72	22.2	75	W	8	3.6	.....	.....	10s	.....	.....	0	0	Cloudy	
Yankton, Dakota	28.78	731.0	30.04	763.0	62	16.7	88	W	5	2.2	.....	0	0	.....	.....	0.15	3.8	Clear	
Yuma, Arizona	29.64	752.8	29.80	756.9	82	27.8	78	E	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.99	761.7	30.04	763 0	54.5	12.5	93	SE	7	3.1	.....	.....	1s	.....	SE	0	0	Fair	J. Fortescue, W. Wood
Havana, Cuba, W. I.	29.98	761.5	30.00	762.0	81	27.2	78	E	2.4	1.1	.....	2cs	0	Calm	.....	0.20	5.1	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	81	27.2	87	E	4	1.8	.....	2c	8s	NE	.....	0.13	3.3	Clearing	G. O. Gellich.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	83	28.3	79	Calm	0	0	.....	8c	2s	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.90	759.4	29.98	761.5	84	28.9	.....	SE	12.5	5.6	.....	.....	10s	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	80	26.7	87	SE	.....	.....	2	3c	5k	E	.....	0.060	1.52	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.32	643.1	.....	.....	63.5	17.5	92	Calm	0	0	.....	.....	10n	.....	.....	1.42	36.1	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Concho, 1,750 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573,4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m.; Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft. or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington. 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15	765.8	85	29.4	85	29.4	79	NW	3	1.3	.....	.....	2	.....	SW	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.80‡	756.9‡	.....	.....	61	16.1	??	WSW	4	1.8	.....	.....	5	.....	.....	0.6	15.	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.95*	761.5*	73.9	23.3	71.1	21.7	78	E	.....	.....	4	.....	1ck	.....	ENE	0	0	.....	.....	Fair.....	
Adams. Apia, Samoan Islands. .	29.97	761.2	80	26.7	79	26.1	100	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance. N. 46° 46′, W. 6° 39′..	29.95‡	760.7‡	.....	.....	64	17.8	78	NW	.....	.....	6	.....	5	.....	NW	.....	.....	Heavy	W	Squally.....	
Ashuelot. Kobe, Japan.....	29 94	760.5	78	25.6	79	26.1	74	ENE	.....	.....	4	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Canonicus, New Orleans, La.....	30.00	762.0	56	13.3	81	27.2	91	SE	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.....	29.74‡?	755.4‡?	.....	.....	75	23.9	60	NW	3	1.3	.....	.....	8	.....	W	0	0	... ...	.....	Foggy	
Constitution, Havre, France.....	29.71‡	754.6‡	.....	.....	66	18.9	94	SE	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Overcast	
Despatch. Volo, Turkey	29.87‡	758.7‡	.....	.....	78	25.6	73	SE	.....	.....	2	.....	5	.....	SE	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.....	30.00	762.0	83	28.3	82	27.8	91	WSW	7	3.1	.....	.....	8	.....	Calm	0	0	.....	.....	Fair	
Gettysburg Villefranche, France.....	29.90‡	759.4‡	.....	.....	85	29.4	87	ESE	.....	.....	1	.....	5	.....	Calm	0	0	Smooth	.....	Fair.....	
Hartford, Rio de Janeiro, Brazil ...	30.07	763.8	.....	.....	76	24.4	73	NNW	6.4	2.9	.....	.....	8	.....	.....	0	0	.....	.....	Cloudy	
Marion, Villefranche, France	30.02	762.5	80	26.7	82	27.8	63	ESE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Bayfield, Wisconsin.....	29.46	748.3	76	24.4	66	18.9	74	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy. Yokohama, Japan	30.02‡	762.5‡	.....	.....	72	22.2	76	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear..... ...	
New Hampshire, Port Royal, S. C.....	30.20†	767.1†	.....	.....	81	27.2	82	SW	16	7.2	.....	.....	2	.....	SW	0	0	.....	.....	Clear	
Onward, Callao, Peru.....	30.14†	765.5†	.....	.....	61	16.1	82	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.....	29.84‡‡	757.9‡‡	.....	.....	82	27.8	91	ENE	.....	.....	1	.....	8	.....	E	0.5	13.	.....	.....	Fair	
Palos, Tientsin, China.....	29.78	756.4	85	29.4	82	27.8	79	Calm	.....	.....	0	.....	10?	.....	.....	.....	.....	.....	.....	Clear?.....	
Pensacola, Mare Island, California	29.94	760.5	64	17.8	58	14.4	88	SW	4	1.8	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y..... ...	29.80‡‡	756.9‡‡	.....	.....	74	23.3	100	W	.....	.....	2	.....	10	.....	W	.....	.....	.....	.....	Drizzling.....	
Ranger. Hong-Kong, China	29.99	761.7	81	27.2	80	26.7	91	SE	.....	.....	2	.....	8	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo, Brownsville, Texas.....	29.89	759.2	81	27.2	81	27.2	96	ESE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Santee, Annapolis, Md...	29.78‡	756.4‡	.. ..	.....	83	28.3	71	NW	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa	29.81	757.2	77	25.0	76	24.4	82	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	.....	Misty.....	
Supply, Havre, France.....	29.78	756.4	71	21.7	70	21.1	90	SE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Swatara, Boston, Mass.....	29.67‡	755.6‡	.....	.....	70	21.1	75	WNW	.....	.....	3	.....	8	.....	WNW	.....	.....	.....	.....	Misty.....	
Trenton, Cherbourg, France.....	29.69‡	754 1‡	.....	.....	67	19.4	84	WSW	.....	.....	2-4	.....	10	.....	S;W	0.2	5.	.....	.....	Squally.....	
Tuscarora. Acapulco, Mexico.....	29.70	754.4	80	26.7	80	26.7	87	Calm	.....	.....	0	.....	8	.....	Calm	0	0	.....	.....	Cloudy.	
Vandalia, Naples, Italy.....	29.92‡	760.0‡	.....	.....	82	27.8	59	SW	.....	.....	1	.....	2	.....	SW	.....	.....	.....	.....	Clear..... ...	
Wabash, Boston, Mass.....	29.63‡	753.9‡	.....	.....	72	22.2	71	W	10	4.5	.....	.....	5	.....	W	3.24	82.3	....	.....	Fair	
Wyoming, N. 40° 41′, W. 70° 21′.....	29.78†	756.4†	.....	.. ..	71	21.7	90	WNW	.....	.....	2	.....	10	.....	WNW	.....	.....	Mod'ate	WNW	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. * It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 40° 31′, E. 172° 20′		30.34*	770.6*	71	21.7	100	SE			3		10		SE	0	Light	SE	Foggy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, Yokohoma, Japan		29.92†	760.0†	70	21.1	95	ENE	10	4.5			0						Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Esquimault, B. C.		30.13†	765.3†	55	12.8	93	Calm			0		0			0			Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 40° 31′, E. 172° 20′		30.34*	770.6*	71	21.7	100	SE			3		10		SE	0	Light	SE	Foggy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, Yokohoma, Japan		29.92†	760.0†	70	21.1	95	ENE	10	4.5			0						Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Esquimault, B. C.		30.13†	765.3†	55	12.8	93	Calm			0		0			0			Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.64*	752.8*	79	26.1		SSW			3				SSW	6 hours			D clouds	Capt. B. Gleadell.
S. S. Germanic, N. 51° 22′, W. 15° 47′		29.95†	760.7†	60	15.6	??	NW			5		3		NW	0	Heavy	WNW	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Belgic, N. 41° 27′, W. 169° 15′		30.12*	765.0*	64	17.8	83	NE			3		ks		NE		Smooth	NE	Showery	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 32° 29′, E. 134° 32′		29.86	758.4	74	23 3	95	NE			5-6		8		ENE		4	ENE	Raining	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'per 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 50° 34′, W. 16° 18′		29.98*	761.5*	66	18.9	89	NNW			3		5		WNW	Light	Smooth	NNW	Squally	Captain Sargent.
S. S. Ohio. N. 39° 34′, W. 72° 32′ 15″		29.79	756.7	71	21.7	85	W			3		9?		W	0	Light	SW	Clear?	Captain Morrison.
S. S. Pennsylvania, N. 40° 40′, W. 62° 33′		29.77†	756.1†	83	28.3	100	SW			5		9		SW	Blank	Large	SW	Stormy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 39° (93?) W. 65° 41′		29.87*	758.7*				SW	20	8.9			6		W		Heavy	SW	Cloudy	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Godhavn, Greenland		30.06*	763.5*	51.5	10.8	90	E			2-3	0	0						Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 11, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum't'l error and temperature. Inches.	Barometer. Corrected for instrum't'l error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			Dr. Ollive.
Nemours			29.92	760.0	84.2	29.0	58	NNW			1		1			0	0	Very fair	Kesxuche.
Algiers			29.88	759.0	84.2	29.0	71	NNE			1		3			0.177	4.5	Pretty fair	Tourillere.
La Calle			29.93	760 2	85.6	29.8	68	NW			3		3			0	0	Pretty fair	Foufrede.
Tunis			29.93	760.1															Jacques.
Sfax			30.00	762.0	89.6	32.0		S			1		0			0	0	Clear	Gau.
Saida			30.04	763.0	100.9	38.3	23	W			1		0			0	0	Clear	Herbin.
Tebessa			29.93	760.2	100.4	38.0		Calm			0		2			0	0	Fair	Watrin.
Geriville			30.07	763.6	86.9	30.5	21	S			8		4			0	0	Cloudy	Brugniaux.
Laghouat			30.00	762.0	101.5	38.6	17	Calm			0		1			0.043	1.1	Very fair	Bertrand.
Biskra			29.90	759.5	102.6	39.2	25	ESE			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 892 meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.42ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann. Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum't'l error and temperature. Inches.	Barometer. Corrected for instrum't'l error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.24	742.8	29.76	756.0	79.3	26.3	51	SW			2		4			0	0		Prof. Ivan Stozu
Cracow	29.01	737.5	29.76	755.8	81.7	27.6	65	SW			1		5			0	0	Foggy	Prof. Dr. Karlinski.
Eperies	28.97	735.8	29.81	757.1	75.0	23.9	57	S			1		9s			0	0		Julius Mikolic.
Gratz	28.61	726.7	29.82	757.3	67.1	19.5	72	N			3		10			0	0		Andreas Rospini.
Hermannstadt	28.45	722.5	29.79	756.6	77.2	25.1	47	ESE			4		3			0	0		Prof. Reissenberg
Kremtmünster	28.47	723.2	29.76	755.9	68.4	20.2	64	W			2		7			0	0		Prof. C. Wagner
Lemberg	28.82	732.0	29.76	755.8	73.8	23.2	70	SE			1		6			0.291	7.4		Dr. T. Stanecki.
Pola	29.69	754.0	29.79	756.7	80.2	26.8	69	S			2		5ck			0	0		I.R.Hydrographic Office
Szathmar	29.42	747.2	29.86	758.5	73.4	23.0	77	S			3		8			0.917	23.3		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.71	754.6	29.81	757.2	78.8	26.0	55	NW			1		6			0.354	9.0	Thunder-storm	P. Busin.
Vienna	29.12	739.7	29.81	757.1	75.4	24.1	57	W			2		6			0	0		I. R. Central Met.Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2.8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum't'l error and temperature. Inches.	Barometer. Corrected for instrum't'l error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.39	721.2	29.85	758.3	66.7	19.3	68	W			4		9			0.067	1.7		Prof. M. Passau.
Brussels	29.04	752.8	29.84	757.8	68.2	20.1	46	W			6		1		WNW	0	0		Royal Observatory
Furnes																			M. E. de Cae.
Maeseyck	29.72	754.8	29.84	758.0	68.5	20.3	66	SW			4		5			0.071	1.8		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

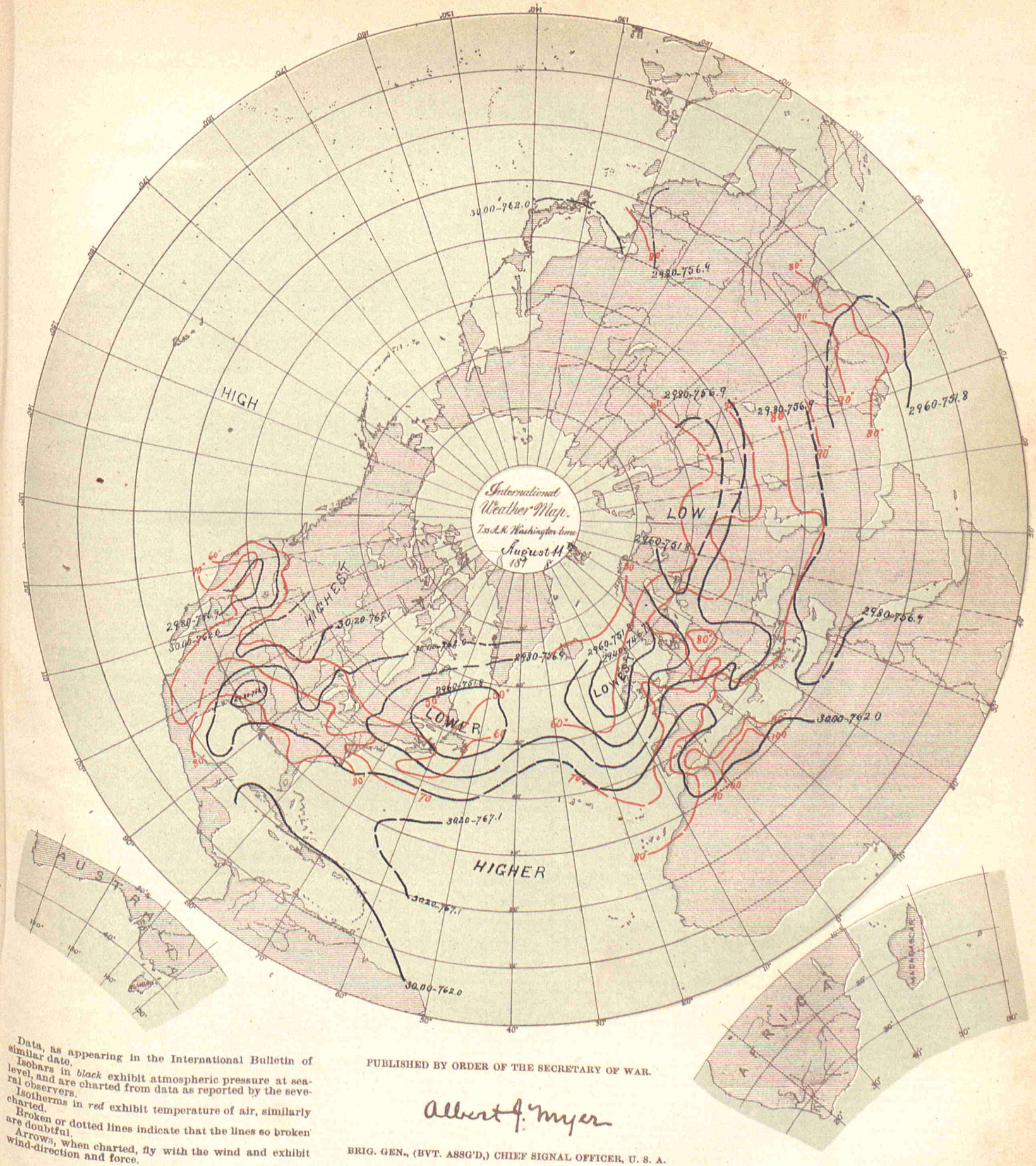
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.51	749.5	29.60	751.8	66.0	18.9	.....	SSE	15	6.7	.....	.....	3	.....	.....	0.020	0.51	Blue sky	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	29.50	749.3	62.2	16.8	.....	S	14	6.3	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.73	755.1	66.6	19.2	.....	WNW	6	2.7	.....	.....	9	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	29.38	746.2	29.57	751.1	64.9	18.3	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.12	3.0	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	79.5	26.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.81	757.2	71.0	21.7	.....	NW	.....	.....	1	.....	5	.....	.....	Blank	Blank	D. clouds	H. Todd. [H.C.
Cardington	.....	.....	29.82	757.4	69.0	20.6	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.63	752.6	29.72	754.9	76.2	24.6	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.28	718.3	29.71	754.6	57.6	14.2	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy	Alexander Watt. [Col. Martin, R. E.
Donaghadee	29.59	751.6	29.62	752.3	65	18.3	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.82	757.4	29.84	757.9	70	21.1	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	¼ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	29 73	755.1	67.8	19.9	.....	SW	4.2	1.9	.....	.....	6	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Falmouth, Observatory	29.62	752.3	29.84	757.9	62.4	16.9	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.51	698.7	29.78	756.4	68.3	20.2	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.50	756.9	30.03	762.7	79	26.1	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.41	747.8	62	16.7	.....	SSW	.....	.....	5	.....	10	.....	.....	.....	.....	Raining	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.84	757.9	29.90	759.4	76.3	24.6	.....	SW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.41	747.0	29.21?	741 9?	65.2	18.4	.....	SSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	D. G. Maclean.
Great Yarmouth	29.78	756.4	29.79	756.7	69	20.6	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.66	753.4	29.83	757.7	75.6	24.2	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.69	754.1	29.91	759.7	66.5	19.2	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.88	758.9	60	15.6	.....	S	.....	.....	1	.....	2k	.....	.....	0.25	6.3	Misty	M. P. Moyle.
Holyhead	29.64	752.8	29.70	754.4	65	18.3	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Tilston.
Jersey	29.69	754.1	29.97	761.2	66.3	19.1	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	.....	.....	66.2	19.0	.....	WSW	9	4.0	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.65	753.1	29.68	753.9	64	17.8	.....	S	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.78	756.4	66.9	19.4	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.82	757.4	29.89	759.2	87.4	30.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. J. Becket, A. H. C.
Nairn	29.47	748.5	29.56	750.8	66	18.9	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	84.5	29.2	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.60	751.8	29.78	756.4	71.7	22.1	.....	WNW	.....	.....	2	.....	5e;ks;k	.....	W; WSW; SW	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.27	743.4	29.77	756.1	69.0	20.6	.....	SSW	.....	.....	4	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.81	757.2	69	20.6	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	H. E. Bellamy.
Plymouth	29.78	756.4	29.86	758.4	65.3	18.5	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.58	751.3	29.62	752.3	63	17.2	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.58	751.3	60.8	16.0	.....	SW	8	3.6	.....	.....	0	.....	.....	.....	.....	Blue sky	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.81	757.2	83.8	28.8	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Sergt. W. H. Lyne.
Sheffield	29.50	749.3	29.77	756.1	70.9	21.6	.....	W	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	W. F. Cooper.
Silloth, Rectory	29.65	753.1	29.68	753.9	71.7	22.1	61	SW	.....	.....	2	.....	4	.....	.....	0.130	3.30	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.35	745.5	29.75	755.6	65.1	18.4	.....	SSW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	29.45	748.0	29.48	748.8	62	16.7	.....	SW	.....	.....	5	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.56	750.8	63	17.2	.....	WNW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	John Trotter.
Truro, Royal Institution	.....	.....	29.86	758.4	67	19.4	.....	SW	.....	.....	6	.....	10	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	29.50	749.3	60.7	15.9	.....	S	38	17.0	.....	.....	10	.....	.....	.....	.....	Raining	The Staff.
SUB-SERIES.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.02	737.1	54.0	12.2	93	NW	.....	.....	3	.....	10k	.....	.....	0.45	11.4	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.07	763.9	72.3	22.4	75	ESE	2.0	0.9	.....	0	4	.....	WSW	1.01	25.7	Cloudy	C. Meldrum.
Melbourne, Observatory	29.31	744.5	29.40	746.7	52.9	11.6	80	SW	4	1.8	.....	.....	8	.....	NW	0.24	6.1	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off; Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 57° 30', W. 51° 50'	.....	.....	29.66	753.4	49	9.4	.....	NE	.....	.....	4	.....	7	.....	.....	4	.....	D. clouds	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato.
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 40° 45', W. 69° 10'	.....	.....	29.82	757.4	61	16.1	.....	W	.....	.....	2	.....	6	.....	.....	3	SW	Misty	Capt. Alex Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7			65.8	18.8	91	SE			1	9ks				0.1	3.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.56	750.8	29.61	752.0	68.2	20.1	83	SSW			4		10					Raining	
Fanöe	29.55	750.6	29.57	751.1	69.6	20.9	78	WSW			4		9						
Godthaab, (Greenland)	29.74	755.4	29.78	756.5	43.5	6.4	90	Calm			0		9						
Stykkisholm, (Iceland)	29.56	750.9	29.61	752.0	55.0	12.8	82	Calm			0		8						
Thorshavn, (Faröe)																			
Vestervig	29.35	745.5	29.52	749.8	66.6	19.2	83	WSW			4		4					Raining	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.46	748.3	30.01	762.3	68.0	20	74	W			1		8			0.63	16.	Very cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.85	758.1	29.93	760.1	80.6	27	42	NNW			3		0			0.031	0.8	Very clear	M. Girand, Director.
Bar-sur-Seine	29.40	746.7	29.93	760.3	69.6	20.9	61	W			1		8kn		WNW	0.563	14.3	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.64	752.9	29.92	759.9	71.6	22.0	50	NW			1		5		WSW	0.285	7.25	Cloudy	Frere Eugene Marie, Director.
Besançon	29.11	739.5	29.99	761.7	64.4	18	90	SW			2		10		SW	0.47	12.	Covered	Normal School.
Bourg-en-Bresse, N. School	29.17	741.0	30.11	764.8	72.1	22.3	66	W			1		10cn		W	0.35	9.	Covered	M. Marlot, Director.
Bourges, Normal School	29.47	748.4	30.00	762.0	66.9	19.4	76	SW			2		2k		W	0.413	10.5	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.66	753.4	29.91	759.6	71.2	21.8	67	SSW			3		9		SSW	0.069	1.75		The Staff.
Carcassonne, Normal School	29.61	752.0	30.00	762.0	75.2	24	53	W			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.56	745.8	29.91	759.7	68.9	20.5	96	W			2		7		E	0.87	22.		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.58	751.2	29.88	758.9	72.3	22.4	60	S			3		10	N	N	1.752	44.5	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.66	728.0	29.97	761.2	71.2	21.8	61	W			1				W	0.157	4.0		Alluard, Director.
Commercy, Normal School	29.05	737.8	29.86	758.5	66.6	19.2	84	W			3		10kn		W	0.138	3.5	Light rain	Dr. Coulet, Director.
Commune de Grèasque*	28.80	731.4	29.94	760.4	80.6	27.0	33	NW			6		2		NW	0	0	¼ Covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.82	757.4	30.03	762.7	73.0	22.8	53	W			1		5		W	0.055	1.4	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.67	753.6	29.97	761.2	70.5	21.4	61	NW			1		5		WNW	0.28	7.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.09	738.9	29.91	759.8	64.4	18	84	S			2		10		E			Raining	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					70.0	21.1	72	NW			3		2		NW	0.402	10.2	Partly cl'dy	M. Galzin, Director
Mirecourt, Normal School	28.89	733.9	29.91	759.7	66.6	19.2	83	WSW			1		8n		W	0.39	10.	Very cloudy	M. Barbier, Director.
Nismes, Normal School	29.74	755.4	29.93	760.3	80.2	26.8	37	N			2		0			0	0	Clear	Boyer, Director.
Orleans, Normal School																			Bernard, Director.
Paris, Observatory																			National Observatory.
Privas, Normal School	28.98	736.1	30.01	762.3	72.7	22.6	52	N			3		n	S	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.17	639.2			51.8	11.0	72	WNW			2					0.185	4.7		Alluard, Director.
Rochefort, Naval Obs'y	30.03	762.7	30.06	763.5	74.5	23.6	44	W			2		2		W	0	0	¼ covered	M. Giguel, Director.
Rouen, Normal School	29.84	757.8	29.92	759.9	73.8	23.2	50	WSW			1		2		W	0.283	7.2	Slightlycl'dy	F. Lucard, Director.
Saint Malo (Port)			29.94	760.5	64.6	18.1	71	NNW			2		8		WNW	0.323	8.23	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	28.97	735.8	30.00	762.1	75.2	24	67	WSW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.25	742.9	29.93	760.3	74.7	23.7	73	W			4		2		E	0.71	18.	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.82	759.3	29.84	758.0	78.8	26										19.73	501.		L'Abbé Marchési.
Lyons			30.06	763.4	74.8	23.8	48						2			0.341	8.4		L. Jays.
Marseilles, Observatory			29.89	759.1	80.2	26.8	33	WNW			4		0			Inap	Inap		The Staff.
Mont-Louis	24.89	632.2	30.21	767.2	64.0	17.8	55	ENE	7.4	3.33			3		SW	0.341	8.4		M. Cave.
Nice			29.83	757.7	77.5	25.3	76	E			3		1			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.65	753.1	29.93	760.1	71.6	22.0	59	W			2		9			0	0		Marié Davy, Director
Perpignan			30.00	762.0	77.9	25.5	43	N	11.2	5.00			1		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.65	575.3			55.6	13.1		W			2		4			0	0	Fair	Gen'l de Nansouty
Saint Maur, (near Paris)	29.77	756.1	29.93	760.3	70.9	21.6	59	WNW			2		7		W	0.122	3.1		E. Renou.
Toulouse, Observatory	29.37	746.1	30.10	764.5	70.0	21.1	47	NNW			1		3			0	0		The Staff.
Tours	29.89	756.8	29.99	761.8	71.6	22.0	50	W			2		5		W	0.638	16.2		C. Marquet.
Versailles, (near Paris)			29.95	760.8	70.2	21.2	53	NW			2		9			0.499	12.67	Almost cov.	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.77	756.1	29.80	756.8	80.6	27.0	96	ESE	2.5	1.1		8c	ks			0.012	0.3	Lightning	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.95	735.2	29.78	756.3	72.7	22.6	76	W			2		6	W		0.08	2.	Raining	Prof. Dr. Hoh.
Berlin	29.52	749.9	29.69	754.0	75.4	24.1	65	S			2		7			0	0		Prof. Arndt.
Breslau	29.26	743.2	29.79	756.6	81.1	27.3	52	SSE			2		7			0	0		Royal University Obs'y
Carlsruhe	29.41	747.0	29.82	757.5	65.5	18.6	90	SW			4		10			0.299	7.6	Raining	Albert Senz.
Cassel	29.15	740.3	29.75	755.6	66.7	19.3	86	NW			3		10	WNW		0.284	7.23		Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	70.0	21.1	64	NW			6		8k			0.16	4.		Director Lose.
Emden	29.60	751.8	29.64	752.8	68.2	20.1	77	NW			3		10			0	0		Prof. Prestel.
Frankfort on the Main	29.43	747.4	29.78	756.4	68.0	20		SSW			4		10			0.16	4.	Raining	Physical Society.
Friedrichshafen	28.49	723.7	29.88	758.9	69.3	20.7	67	WSW			7		7	WSW		0.161	4.1		M. Wilhelm.
Hamburg	29.58	751.4	29.65	753.1	69.3	20.7	84	WSW			2		10n			0	0	Cloudy	Captain F. Hegemann.
Kiel	29.60	751.8	29.61	752.2	71.6	22.0	71	W			2		10			0.004	0.11		Prof. G. Karsten.
Königsberg, (Prussia)	29.72	754.8	29.80	756.8	77.9	25.5	52	S			3		2			0	0		Prof. E. Luther.
Köslin			29.66	753.4	80.6	27.0		SE			4		4			0	0		H. Müller.
Leipsic, Observatory	29.33	744.9	29.73	755.1	75.9	24.4	53	SW			3		8	SW		0	0		Prof. Bruhns.
Memel, Naval School	29.78	756.5	29.83	757.7	75.9	24.4	51	SW			1		1ks						Reinbrecht and Skalweit.
Neufahrwasser	29.76	755.9	29.78	756.3	80.2	26.8	47	SE			4		5	SSW		0	0		A. Lothes.
Posen	29.52	749.7	29.79	756.6	79.7	26.5	50	S			5		9			0	0		Dr. Magener.
Strassburg (in Alsace)	29.35	745.4	29.87	758.8	71.8	22.1	74	SSW			3		10	W		0.386	9.80	Raining	Astronomical Observatory.
Stuttgart	28.90	734.1	29.81	757.1	70.7	21.5	67	W					10			0.059	1.5	Raining	Prof. Schoder.
Treves, (Trier)	29.20	741.7	29.72	754.8	65.3	18.5	89	W			4		10			0.453	11.50		Prof. Flesch.
Weissenburg, (Bavaria)	28.36	720.3	29.79	756.7	69.6	20.9	56	WSW	5.1	2.3			8ck		WSW	0.110	2.8		Dr. Von Bebber.
Wustrow, Naval School	29.64	752.9	29.68	753.9	66.9	19.4	88	S			2		10			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.45	748.0	29.82	757.5	86.7	30.4		NE			4.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Jeesa	28.96	735.6	29.44	747.7	79.5	26.4	97	W					7	E	W	1.28	32.5	D. clouds	
Bombay	29.53	750.0	29.57	751.0	80.7	27.1	91	W	25	11.2			10		WSW	0.10	2.5	Overcast	
Poona	27.62	701.5	29.63	752.5	72.6	22.6	87	W					10		W	0.92	23.4	Drizzling	
Lahore	28.85	732.7	29.56	750.9	93.1	33.9	64	NE	3.6	1.6			2			0	0	Misty	
Belgaum	27.14	689.4	29.69	754.1	70.8	21.6	95	WNW	9	4.0			10		WSW	0.20	5.1	Showery	
Bangalore																			
Roorkee	28.65	727.8	29.52	749.9	90.8	32.7	58	Calm	6.1	2.7			4			0	0		
Agra	28.94	735.1	29.49	749.1	89.2	31.8	61	SE					4		E	0	0		
Trichinopoly																			
Nagpur	28.48	723.4	29.51	749.6	80.6	27.0	85	E	4.7	2.1			10		N	1.49	37.8	Drizzling	
Madras																			
Lucknow																			
Allahabad	29.21	741.9	29.51	749.6	88.6	31.1	75	SE	5.7	2.6			7		SE	0	0	D. clouds	
Patna	29.43	747.4	29.60	751.9	86.6	30.3	68	E	3.3	1.5			4	E	E	0	0	D. clouds	
Hazaribagh	27.61	701.3	29.62	752.3	75.8	24.3	86	ESE	11.1	5.0			9		SE	0.31	7.9	Raining	
Cuttack	29.51	749.5	29.59	751.6	82.5	28.1	83	ESE	1.1	0.5			10			2.00	50.8	Thunder	
Calcutta (Alipore)	29.62	752.3	29.64	752.9	78.5	25.8	94	E	9.0	4.0			10	SE	SE	2.05	52.1	Drizzling	
Goalpara	29.27	743.5	29.66	753.4	80.7	27.1	87	Calm	3.7	1.6			3			0.04	1.0	D. clouds	
Chittagong	29.64	752.9	29.74	755.3	79.1	26.2	91	NNE	5.6	2.5			10			0	0	Overcast	
Sibsagar	29.29	743.9	29.62	752.3	88.3	31.3	72	SSW	2.1	0.9			2			0	0	Blue sky	
Rangoon																			
Jubbulpore	28.16	715.1	29.51	749.5	78.8	26.0	91	SE	5.3	2.4			10			0.70	17.8	Raining	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.41	747.0	29.80	757.0	78.4	25.8	58	SW	1.3	0.6	.....	.....	4	.....	.....	0.315	8.0	.....	Prof. Giovanni Clodig.
Padua	29.66	753.3	29.76	756.0	79.9	26.6	53	NNW	1.3	0.6	.....	.....	3	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.61	752.0	29.79	756.7	79.9	26.6	56	SW	0	0	.....	.....	4	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.59	724.9	29.75	755.7	80.2	26.8	53	SE	.....	.....	2	.....	5	.....	.....	0.071	1.8	.....	Prof. Trionfini Carlo.
Milan	29.28	743.8	29.78	756.3	81.9	27.7	73	SE	.....	.....	2	.....	2	SW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.93	734.7	29.79	756.6	77.4	25.2	67	WNW	2.5	1.1	.....	.....	4	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.94	709.9	29.77	756.1	77.0	25.0	45	N	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.59	751.6	29.80	757.0	74.7	23.7	82	E	.....	.....	6	.....	6	W	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.65	753.2	29.82	757.3	79.5	26.4	62	SE	.....	.....	4	.....	2	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.48	748.7	29.78	756.4	82.0	27.8	43	NNW	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.58	751.4	29.83	757.6	85.1	29.5	40	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.76	755.8	29.84	757.9	80.8	27.1	64	W	8.1	3.6	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.76	755.9	29.81	757.1	83.1	28.4	47	SW	.....	.....	.....	.....	10	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.35	720.0	29.83	757.6	75.0	23.9	49	SW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.71	754.5	29.87	758.8	84.2	29.0	44	W	13.0	5.8	.....	.....	6	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.76	755.9	29.91	759.8	82.2	27.9	64	WSW	.....	.....	6	.....	4	W	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.63	752.7	29.88	758.9	81.1	27.3	42	ESE	6.5	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.66	753.4	29.85	758.1	84.2	29.0	50	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.01	736.8	29.85	758.1	88.9	31.6	62	SW	5.6	2.5	.....	.....	4	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.65	753.1	29.89	759.3	79.5	26.4	48	E	4.3	1.9	.....	.....	4	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.80	756.8	29.87	758.7	86.7	30.4	52	SW	.....	.....	2	.....	4	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.36	745.8	29.92	759.9	80.2	26.8	66	SW	0	0	.....	.....	3	S	.....	0	0	.....	Prof. F. Brioschi.
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Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.67	753.6	29.86	758.4	78.4	25.8	82	N	1.6	0.7	.....	.....	10ck;s	.....	NNE	0.100	2.54	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory	30.03	762.7	30.09	764.5	65.9	18.8	94	N	6.8	3.0	.....	.....	10ck;s	.....	.....	0.665	16.89	Light rain	
Tokei (Yeddo) University	29.95	760.7	30.05	763.2	66.1	18.9	97	N	5.5	2.5	.....	.....	10s	.....	.....	0	0	.....	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	65.4	18.6	91	Calm	0	0	.....	5c	4k	NE	NE	0.08	2.0	Cloudy	L. Castillo, A. E.
Guadalajara	25.06	636.4	30.01	762.1	58.1	14.5	87	NE	0.9	0.4	.....	0	9	.....	SE	0.40	10.2	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	24.40	619.7	29.92	760.1	63.9	17.8	85	SW	0.9	0.4	.....	0	10n	.....	.....	0.04	1.0	Raining	Prof. M. Leal.
Mexico	23.08	586.3	30.03	762.7	57.6	14.2	88	Calm	0	0	.....	0	9k	.....	NE	0.40	10.5	Cloudy	Central Observatory.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	N. N.
Orizaba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. Orozco, M. D.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.5	17.5	91	SW	0.9	0.4	.....	0	10kn	.....	.....	0	0	Covered	M. V. de Leon, M. E
Puebla	23.33	592.6	29.93	760.3	61.52	14.2	84	E	2.2	1.0	.....	4ck	4cs	E	.....	0	0	Cloudy	Prof. B. Gonzalez.
Toluca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. C. Velazquez.
Tlacotalpam	29.92	760.0	29.94	760.5	77.9	25.5	94	S	11.0	4.9	.....	10ck	0	SW	.....	0	0	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.06	763.4	64.0	17.8	77	E	0.9	0.4	.....	0	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	29.93	760.2	29.96	760.8	83.3	28.5	81	NW	1.1	0.5	.....	0	9kn	.....	SE	0.36	9.1	Dark	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	82	NE	1.8	0.8	.....	0	6	.....	E	0	0	½ cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	590.8	29.99	761.8	57.2	14.0	92	NE	1.1	0.5	.....	1	1	W	E	Inap.	Inap.	Clear	Prof. P. Spina, [M.M. D. D
Morelia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Tena, F L. Paramo,
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. Banda, C. E.
San Juan E. Michapam	28.36	720.2	29.97	761.3	79.7	26.5	76	Calm	0	0	.....	0	0	.....	.....	0.13	3.2	Fine	Antonio Guerra y Guerra.
.....	29.73	755.0	29.87	758.7	76.6	24.8	.....	N	0.9	0.4	.....	0	10n	.....	NE	1.16	28.3	Covered	

Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Orizaba, 1,223 m., or 4,012.4 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; Toluca, 2,625 m., or 8,611.8 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Morelia, 1,940 m., or 6,36 .5 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.2	29.85	758.2	65.5	18.6	.....	W	.....	.....	4	.....	.....	.....	.....	0.433	11.0	.....	
Groningen	29.65	753.0	29.70	754.4	67.5	19.7	.....	NW	.....	.....	2	.....	.....	.....	.....	0.098	2.5	.....	.....
Helder	29.73	755.1	29.73	755.1	64.7	17.6	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	.....
Hellevoetsluis	29.80	756.8	29.80	756.8	65.5	18.6	78	WNW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.76	755.8	29.80	757.0	67.8	19.9	73	W	.....	.....	3	.....	8	.....	.....	0.012	0.3	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the w[illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.37	745.9	29.42	747.3	61.5	16.4	85	SSW	1.1	0.5	.....	.....	10	.....	.....	0.433	11.0	Raining	
Brönö	29.52	749.8	29.56	750.8	57.9	14.4	53	NNW	9	4	.....	.....	7	.....	.....	0	0	.....	
Christiania	29.40	746.7	29.54	750.2	72.9	22.7	48	S	2	1	.....	.....	8	.....	.....	0	0	.....	
Tromsö	29.55	750.5	29.59	751.6	46.8	8.2	65	N	4	2	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.93	760.2	30.11	764.9	74.5	23.6	85	W	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.3	29.96	760.9	86.0	30.0	22	ESE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	763.0	30.13	765.2	76.6	24.8	72	SW	6.3	2.8	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.68	753.9	30.03	762.8	74.7	23.7	48	N	19.9	8.9	.....	.....	0	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.07	763.7	30.13	765.4	78.4	25.8	65	NE	9.8	4.4	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 43′, W. 25° 40′	.....	.....	30.10	764.6	77.5	25.3	.....	NE	.....	.....	2	.....	8	.....	NE	2	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 17° 14′, E. 39° 48′	.....	.....	30.05	763.3	77.9	25.5	.....	SSW	.....	.....	3	.....	3	.....	SSW	3	.....	D. clouds	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.02	762.5	60.8	16.0	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07′, W. 23° 0′	.....	.....	30.04	763.0	85.1	29.5	.....	NNW	.....	.....	2	.....	2	.....	N	2	NNW	D. clouds	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.2	72.5	22.5	.....	W	.....	.....	1	.....	10	.....	E	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.38	746.3	29.78	756.5	78.3	25.7	56	SE	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.45	747.9	29.84	758.0	77.0	25.0	47	S	2	1	.....	.....	5	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.58	751.2	29.81	757.1	73.0	22.8	46	SW	7	3	.....	.....	8ck	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.71	754.5	29.72	754.9	66.6	19.2	65	WNW	13	6	.....	.....	3s;cs	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.24	742.7	29.84	757.9	78.3	25.7	37	SE	7	3	.....	.....	4ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.83	757.7	29.90	759.5	84.2	29.0	39	NE	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Kurdakof.
Kerich	29.81	757.1	29.83	757.6	76.8	24.9	62	NE	11	5	.....	.....	3	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.32	744.7	29.86	758.4	62.2	16.8	81	SE	9	4	.....	.....	8ks	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.72	755.0	29.92	760.0	78.8	26.0	33	E	13	6	.....	.....	5ck	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.47	748.4	29.48	748.9	56.3	13.5	60	WNW	9	4	.....	.....	9k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.44	722.4	29.80	757.0	71.1	21.7	67	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.03	762.8	29.95	760.7	72.5	22.5	51	ENE	9	4	.....	.....	9s	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.56	750.7	29.81	757.1	75.2	24.0	51	SW	9	4	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.83	732.2	29.74	755.5	63.7	17.6	54	W	18	8	.....	.....	6ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.72	755.0	29.95	760.7	79.7	26.5	22	NNE	18	8	.....	.....	0	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.24	717.2	29.85	758.2	79.5	26.4	30	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.26	743.1	29.76	755.9	63.0	17.2	36	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.42	747.3	29.71	754.5	61.2	16.2	64	SE	2	1	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.72	754.8	29.86	758.4	78.4	25.8	84	Calm	0	0	.....	.....	10k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 4° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.86	758.4	29.96	761.0	81.5	27.5	64	S	2.0	0.89	.....	2	4	W	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.97	761.3	30.03	762.7	79.0	26.1	49	E	3.1	1.40	.....	3	2	SW	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.4	.....	.....	74.3	23.5	61	NE	8.4	3.74	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez.
Madrid, Royal Observatory	27.78	705.5	29.86	758.4	88.9	31.6	28	S	9.7	4.31	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.80	757.0	29.95	760.6	90.0	32.2	50	ESE	5.1	2.28	.....	4	2	E	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.13	739.8	30.00	762.0	70.2	21.2	57	N	3.0	1.33	.....	.....	1	.....	.....	0	0	Almost clear	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.8	30.02	762.4	80.8	27.1	81	ESE	4.5	2.0	.....	1ck;cs	0	.....	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.1	29.98	761.5	75.6	24.2	67	W	19.5	8.7	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.89	759.3	29.98	761.6	83.8	28.8	83	E	12.4	5.55	.....	5km?	6km?	E	E	0.709	18.00	Cloudy	Leonardo de Tejeda, Ch'f. Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	25.58	751.3	29.62	752.3	52.5	11.4	.....	N	.....	.....	4	.....	8	.....	.....	0.236	6.0	.....	
Umea	29.60	751.8	29.65	753.1	63.0	17.2	59	SSW	.....	.....	6	.....	10	.....	.....	0	0	.....	
Hernosand	29.56	750.8	29.61	752.1	61.2	16.2	87	ESE	.....	.....	2	.....	8	.....	.....	0	0	.....	
Stockholm	29.51	749.5	29.60	754.0	73.8	23.2	40	SW	.....	.....	2	.....	5	.....	.....	0.008	0.2	.....	
Wisby	29.71	754.6	29.77	756.1	74.1	23.4	49	WSW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.58	751.3	29.65	753.2	72.7	22.6	49	SSW	10.3	4.6	.....	.....	9	WSW	SSW	0.010	0.25	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.1	29.97	761.1	70.7	21.5	56	S	.....	.....	3	.....	6	.....	.....	0.154	3.9	Cloudy	The Observatory.
Zurich	28.33	719.6	29.93	760.1	66.9	19.4	73	W	.....	.....	6	.....	8	.....	.....	0.016	0.4	Rainy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.7 mm.; Thermometer, —0.6 cent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.86	758.5	76.5	24.7	54	NE	13	6.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.98	761.5	79.2	26.2	.....	W	.....	.....	2	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.59	751.6	29.70	754.4	89.4	31.9	52	W	.....	.....	2	.....	2k	.....	W	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.44	747.8	29.73	755.1	68	20.0	.....	W	3	1.3	.....	2c	5s	N	W	0.36	9.1	Fair	W. R. Bigg.
*Chatham, N. B.	29.46	748.3	29.52	749.8	64	17.8	75	W	8	3.6	.....	2ck	2ks	W	W	0.02	0.5	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.50	749.3	29.54	750.3	67	19.4	71	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	H. J. Cundill, C. E.
Cornwall, Ontario	29.50	749.3	29.69	754.1	66.3	19.1	84	W	.....	.....	1	0	2s	.....	.....	0	0	Fair	James Smith, M. A.
Dalhousie, N. B.	29.34	745.0	29.49	749.0	64.8	18.2	84	W	.....	.....	3	.....	.....	.....	.....	0.11	2.8	Cloudy	H. A. Johnson.
Esquimault, B. C.	30.02	762.5	30.07	763.8	53.2	11.8	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.51	749.5	29.53	750.0	55	12.8	87	SW	30	13.4	.....	.....	10s	.....	Calm	0.11	2.8	Threatening	J. McWilliams.
Fredericton, N. B.	29.58	751.3	29.64	752.8	66.0	18.9	66	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.25	742.9	30.06	763.5	59	15.0	91	NW	3	1.3	.....	5k	5ks	NW	NW	0	0	Cloudy	James Stewart.
Goderich, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. J. Strang, M. A.
Granton, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
*Halifax, N. S.	28.89	731.5	29.86	758.4	62.5	16.9	100	W	.....	.....	1	0	0	.....	.....	0.55	21.6	Clear	James Grant.
Hamilton, Ontario	29.48	748.8	29.61	752.1	68	20.0	76	W	8	3.6	.....	5cs	2ks	W	W	0	0	Fair	F. Allison, M. A.
Heart's Content, N. F.	29.50	749.3	29.86	758.4	65.7	18.7	82	W	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
*Kingston, Ontario	29.45	748.0	29.47	748.5	60	15.6	94	SW	.....	.....	2	.....	10	.....	.....	0.41	10.4	Cloudy	E. Weedon.
Little Glace Bay, N. S.	29.44	747.8	29.76	755.9	67	19.4	73	W	4	1.8	.....	5c	0	Calm	.....	0	0	Fair	S. Woods, M. A.
*Montreal, Quebec	29.46	748.3	29.49	749.0	70.0	21.1	.....	W	12	5.4	.....	4k	0	W	.....	0	0	Fair	C. H. Rigby.
*Parry Sound, Ontario	29.52	749.8	29.71	754.6	67	19.4	69	W	6	2.7	.....	5k	2ks	NW	Calm	0.01	0.3	Cloudy	C. H. McLeod, C. E.
Peterboro, Ontario	29.16	740.7	29.83	757.7	66	18.9	89	W	12	5.4	.....	2ck	0	W	.....	0	0	Fair	Rev. R. Mosley.
Port Dover, Ontario	29.06	738.1	29.78	756.4	67.7	19.8	69	W	.....	.....	4	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Hastings, N. S.	29.19	741.4	29.86	758.4	65	18.3	89	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Stanley, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
*Quebec, Quebec	29.25	742.9	29.87	758.7	66	18.9	89	W	6	2.7	.....	5k	0	W	.....	0.22	5.6	Fair	M. Payne.
*Rockliffe, Ontario	29.35	745.5	29.66	753.4	61	16.1	83	W	.....	.....	1	0	0	.....	.....	0.02	0.5	Clear	Capt. Ashe, R. N.
St. Andrews, N. B.	29.28	743.7	29.73	755.1	58	14.4	94	S	2	0.9	.....	.....	Fog	.....	S	Inap.	Inap.	Foggy	W. H. McIntyre.
St. John, N. B.	29.50	749.3	29.55	750.6	66	18.9	66	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
*Saugeen, Ontario	29.48	748.8	29.64	752.8	67	19.4	62	W	12	5.4	.....	1ck	0	.....	.....	0	0	Clear	G. Murdock, C. E.
Stayner, Ontario	29.14	740.1	29.83	757.7	66	18.9	73	W	17	7.6	.....	8k	0	W	.....	0	0	Fair	K. Stewart.
Stratford, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
*Sydney, C. B.	28.62	726.9	29.86	758.4	62.1	16.7	86	NW	10	4.5	.....	0	0	.....	.....	0.236	5.99	Clear	C. J. MacGregor, M. A.
*Toronto, Ontario	29.51	749.5	29.53	750.0	74	23.3	68	SW	10	4.5	.....	2c	0	.....	.....	0	0	Clear	T. C. Hill.
Windsor, N. S.	29.46	748.3	29.83	757.7	65	18.3	80	W	6	2.7	.....	2k	5ks	W	W	0	0	Cloudy	Magnetic Observatory.
Woodstock, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	71.0	21.1	80	SW	.....	.....	.....	0	0	.....	.....	0.60	15.2	Fair	J. Montgomery.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From —	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.58	751.3	29.79	756.7	70	21.1	82	S	4	1.8	.....	0	5ks	.....	SW	Inap.	Inap.	Fair	
Alpena, Michigan	29.25	742.9	29.87	758.7	62	16.7	77	W	10	4.5	.....	0	Haze	.....	.....	0.13	3.3	Clear	
Atlantic City, New Jersey	29.86	758.4	29.88	758.9	69	20.6	95	W	5	2.2	.....	.....	10n	.....	Calm	0.18	4.6	Light rain	
Augusta, Georgia	29.84	757.9	30.01	762.2	79	26.1	86	Calm	0	0	.....	5cs	2s;3sn'	W	SW	0.07	1.8	Cloudy,	
Baltimore, Maryland	29.85	758.2	29.89	759.2	69	20.6	95	W	3	1.3	.....	.....	10n	.....	Calm	0.96	24.4	Light rain	
Barnegat, New Jersey	29.85	758.2	29.87	758 7	69	20.6	95	W	5	2.2	.....	.....	10n	.....	Calm	0.28	7.1	Light rain	
Bismarck, Dakota	28.30	718.8	30.16	766.1	57	13.9	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.52	724.4	.....	.....	88	31.1	56	SE	4	1.8	.....	5k	0	SE	.....	0	0	Fair	
Boise City, Idaho	27.16	689.8	30.12	765.0	61	16.1	40	SE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Dense smoke	
Boston, Massachusetts	29.65	753.1	29.79	756.7	68.5	20.3	72	W	9	4.0	.....	.....	9s	.....	W	0	0	Cloudy	
Brackettville, Texas	28.80	731.5	29.77	756 1	79	26 1	78	E	5	2.2	.....	2ck	0	E	.....	0	0	Clear	
Breckenridge, Minnesota	29.06	738.1	30.05	763.3	55	12.8	93	NW	4	1.8	.....	2k	0	NW	.....	0.02	0.5	Fair	
Brownsville, Texas	29.87	758 7	29.93	760.2	84	28.9	79	SE	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.16	740.7	29.83	757.7	66	18.9	79	W	3	1.3	.....	0	1ks	.....	Calm	0.01	0.3	Clear	
Burkes, Arizona	.....	.....	.....	.....	90	32.2	50	N	.....	.....	1	5k	0	SW	.....	0	0	Fair	
Burlington, Vermont	29.50	749.3	29.75	755.6	68	20.0	74	S	8	3.6	.....	8c	0	W	.....	0.28	7.1	Cloudy	
Cairo, Illinois	29.64	752.8	30.01	762.2	74	23.3	76	N	6	2.7	.....	.....	10s	.....	NW	0.08	2.0	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	84	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25 23	640.8	30.03	762 7	68	20.0	79	E	.....	.....	1	.....	10s	.....	NE	0.07	1.8	Cloudy.	
Camp Verde, Arizona	26.73	678.9	30.22	767.8	75	23.9	64	W	.....	.....	1	8c	0	Calm	.....	0	0	Cloudy	
Campo, California	27.35	694.7	29.92	760.0	62	16.7	88	Calm	.....	.....	0	8k	0	Calm	.....	0	0	Cloudy	
Cape Hatteras, N. Carolina	29.97	761.2	29.97	761.2	82	27.8	87	SW	27	12.1	.....	5k	Haze	SW	.....	0	0	Fair	
Cape Henry, Virginia	29.80	756.9	29.91	759.7	78	25.6	82	SW	10	4.5	.....	2ck	2s	SW	Calm	0.29	7.4	Clearing	
Cape Lookout, N. Carolina	29.98	761.5	29.99	761.7	84	28.9	83	SW	28	12.5	.....	8c	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	29.88	758.9	29.90	759.4	70	21.1	90	NW	20	8.9	.....	.....	10n	.....	Calm	0.58	14.7	Light rain	
Castroville, Texas	29.17	740.9	29.83	757.7	82	27.8	79	Calm	0	0	.....	.....	10ks	.....	SE	0	0	Cloudy	
Charleston, South Carolina	30.02	762.5	30.08	764.0	84	28.9	75	SW	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.23	615.4	30.17	766.3	57	13.9	94	SW	12	5.4	.....	.....	10s	.....	Calm	0	0	Threatening	
Chicago, Illinois	29.77	743.4	29.93	760.2	67	19.4	74	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.31	744.7	29.93	760.2	72	22.2	82	N	3	1.3	.....	0	Fog	.....	Calm	0.31	7.9	Clear	
Cleveland, Ohio	29.19	741.4	29.88	758.9	69	20.6	75	SW	3	1.3	.....	0	0	.....	.....	0.01	0.3	Clear	
Coleman City, Texas	28.17	715.5	29.76	755.9	74	23.3	90	N	12	5.4	.....	2ck	8ks	Calm	N	0	0	Cloudy	
Columbus, Ohio	29.12	739.6	29.92	760.0	66	18.9	94	S	2	0.9	.....	.....	Fog	.....	Calm	0.39	9.9	Foggy	
Concho, Texas	28.07	713.0	29.88	758.9	74	23.3	85	N	3	1.3	.....	5c	5s	E	S	0	0	Cloudy.	
Corsicana, Texas	29.47	748.5	29.92	760.0	78	25.6	86	E	1	0.4	.....	2cs	2s	Calm	Calm	0	0	Fair	
Davenport, Iowa	29.38	746.2	30.01	762.0	66	18.9	84	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Denison, Texas	29.15	740.4	29 92	760.0	74	23.3	95	NE	2	0.9	.....	.....	10n	.....	NE	2.01	51.1	Light rain	
Denver, Colorado	24.97	634 2	30.19	766.8	69	15.6	71	S	4	1.8	.....	0	0	.....	.....	0.30	7.6	Clear	
Des Moines, Iowa	29.17	740.9	30.02	762.5	70	21.1	66	NW	.....	.....	1	0	Haze	.....	Calm	0	0	Clear	
Detroit, Michigan	29.24	742.7	29.88	758.9	65	18.3	78	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.58	700.5	29.83	757.7	62	16.7	94	N	8	3.6	.....	5ck	2s	W	Calm	0.05	1.3	Fair	
Dubuque, Iowa	29.31	744.5	29.99	761.7	65	18.3	73	N	1	0.4	.....	0	Fog	.....	Calm	0.04	1.0	Foggy	
Duluth, Minnesota	29.36	745.7	30.01	762.2	63	17.2	62	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.18	741.2	29.88	758.9	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.60	751.8	29.67	753.6	68	20.0	60	W	6	2.7	.....	5c	0	S	.....	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	78	25.6	61	SE	8	3.6	.....	.....	10s	.....	SE	0.10	2.5	Cloudy	
Erie, Pennsylvania	29.16	740.7	29.84	757.9	69	20.6	80	NW	1	0.4	.....	2k	0	N	.....	0.13	3.3	Fair	
Escanaba, Michigan	29.39	746.2	29.94	760.5	61	16.1	71	NW	10	4.5	.....	0	0	.....	.....	0.26	6.6	Clear	
Florence, Arizona	.....	.....	.....	.....	86	26.7	59	W	.....	.....	1	.....	10s	.....	W	0.15	3.8	Cloudy	
Fort Craig, New Mexico	25.64	651.0	29.69	754.1	67	19.4	74	NW	4	1.8	.....	.....	10s	.....	NW	0.15	3.8	Cloudy	
Fort Davis, Texas	27.27	692.5	30.23	767.8	70	21.1	75	NE	9	4.0	.....	.....	10ks	.....	NE	0	0	Cloudy	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760 5	72	22.2	95	NE	7	3.1	.....	.....	10n	.....	NE	1.08	27.4	Light rain	
Fort Griffin, Texas	28.72	729.5	29.93	760.2	75	23.9	90	N	4	1.8	.....	.....	10n	.....	N	Inap	Inap.	Light rain	
Fort McKavett, Texas	27.81	706.4	29.62	752.3	81	27.2	67	E	8	3.6	.....	.....	10ks	.....	E	0	0	Cloudy.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.87	758.7	70	21.1	95	N	12	5.4	.....	.....	10s	.....	N	1.77	45.0	Cloudy.	
Fredericksburg, Texas	28.23	717.0	29.71	754.6	78	25.6	82	S	4	1.8	.....	0	5ks	.....	S	0	0	Fair	
Galveston, Texas	29.92	760.0	29.97	761.2	80	26.7	91	SW	2	0.9	.....	.....	10n	.....	S	0.30	7.6	Light rain	
Graham, Texas	28.89	733 8	29.90	759.4	74	23.3	90	Calm	0	0	.....	.....	10n	.....	Calm	0.88	22.4	Light rain	
Grand Haven, Michigan	29.31	744 5	29.93	760.2	70	21.1	75	E	1	0.4	.....	2k	0	N	.....	0.05	1.3	Fair	
Indianapolis, Indiana	29.20	741.7	29.95	760.7	70	21.1	80	NW	2	0.9	.....	0	0	.....	.....	0.21	5.3	Clear	
Indianola, Texas	29.03	760.2	29.93	761.0	82	27.8	83	S	6	2.7	.....	5k	5ks	Calm	SW	0.01	0.3	Cloudy	
Jacksboro, Texas	28.84	732.5	29.92	760.0	73	22.8	95	SE	3	1.3	.....	.....	10n	.....	SE	1.35	34.3	Light rain	
Jacksonville, Florida	30.05	763.3	30.05	764.0	83	28.3	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.38	746.2	29.97	761.2	69	20.6	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.00	762.0	30.03	762.7	85	29.4	76	SE	12	5.4	.....	1c	5ks	Calm	SE	0.03	0.8	Fair	
Kittyhawk, North Carolina	29.89	759.2	29.91	759.7	81	27.2	70	SW	19	8.5	.....	5ck	0	W	.....	0.06	1.5	Fair	
Knoxville, Tennessee	29.01	736.6	29.95	760.7	75	23.9	81	W	4	1.8	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
La Crosse, Wisconsin	29.27	743.4	29.99	761.7	64	17.8	83	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	68	20 0	89	Calm	0	0	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Laredo, Texas	29.47	748.5	29.79	756.7	82	27.8	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	25.72	653.3	30.20	769.4	56	13.3	81	W	1	0.4	.....	0	5s	.....	W	0.27	6.9	Fair	
Leavenworth, Kansas	29.21	741.9	30.02	762.5	68	20.0	84	N	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Los Angeles, California	29.52	749.8	29.85	758.2	63	17.2	89	W	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.42	747.3	29.95	760.7	71	21.7	90	N	6	2.7	.....	.....	10s	.....	N	0.16	4.1	Cloudy	
Lynchburg, Virginia	29.36	743.2	29.90	759.4	78	25.6	73	SW	2	0.9	.....	.....	10ks	.....	Calm	0.81	20.6	Cloudy	
Marquette, Michigan	29.24	742.7	29.92	760.0	63	17.2	72	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.35	720.1	30.02	762.5	79	26.1	73	SE	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Memphis, Tennessee	29.66	753.4	29.96	761.0	76	24.4	95	N	2	0.9	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy	
Milwaukee, Wisconsin	29.24	742.7	29.95	760.7	65	18.3	73	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.99	761 7	30.04	762.7	82	27.8	87	S	2	0.9	.....	0	5s	.....	S	0	0	Fair	
Montgomery, Alabama	29.89	759.0	30.02	762.5	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.90	734 0	29.91	759.7	70	21.1	80	SW	4	1.8	.....	.....	10s	.....	SW	0.73	18.5	Cloudy	
Mt. Washington, N. H.	23.67	601.2	30.03	762.7	44	6.7	100	NW	28	12.5	.....	.....	Fog	.....	NW	0.41	10.4	Foggy	
Nashville, Tennessee	29.44	747.8	29.95	760.7	77	25.0	91	Calm	0	0	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
New Haven, Connecticut	29.72	754.9	29.83	757.7	70	21.1	85	Calm	0	0	.....	.....	10s;fg	.....	Calm	0.05	1.3	Cloudy	
New London, Connecticut	29.79	756.7	29.83	757.7	70	21.1	85	Calm	0	0	.....	.....	10s;fg	.....	SW.Calm	0.03	0.8	Cloudy.	
New Orleans, Louisiana	29.91	760.5	30.00	762.0	82	27.8	79	Ca'm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.77	756.1	29.82	757.4	70	21.1	85	SW	2	0.9	.....	.....	10s	.....	.....	Inap.	Inap.	Threatening	
New York, New York	29.68	753.9	29.85	758.2	69	20.6	90	SW	5	2.2	.....	Haze	Haze	.....	.....	0.06	1.5	Hazy	
Norfolk, Virginia	29.84	757.9	29.90	759.4	82	27.8	83	SW	7	3.1	.....	5cs	Haze	SW	.....	2.01	51.8	Fair	
North Platte, Nebraska	27.27	692.6	29.89	756.9	61	16.1	88	E	4	1.8	.....	0	Haze	.....	Calm	0	0	Hazy	
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	51	10.6	93	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.98	736.1	30.03	762.7	66	18.9	79	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.50	749.3	29.95	756.9	70	21.1	80	W	6	2.7	.....	8k	0	NW	.....	0	0	Fair	
Pembina, Dakota	29.27	743.4	30.08	764.0	53	11.7	86	W	2	0.9	.....	0	5s	.....	W	0	0	Fair	
Philadelphia, Pennsylvania	29.81	757.2	29.86	758.4	69	20.6	90	W	4	1.8	.....	.....	10n;fg	.....	Calm	0.11	2.8	Light rain	
Phœnix, Arizona	28.68	728.5	.....	.....	80	26.7	70	SE	.....	.....	1	8c	0	SW	.....	0.02	0.5	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.11	446.0	30.32	770.1	35	1.7	36	NW	6	2.7		0	0			0.40	10.2	Clear	
Pioche, Nevada	24.16	613.6	29.91	759.7	69	20.6	31	SW	1	0.4		2k	0	Calm		0	0	Fair	
Pittsburg, Pennsylvania	29.10	739.1	29.88	758.9	69	20.6	85	W	5	2.2		5k	0	W		0.02	0.5	Fair	
Port Huron, Michigan	29.24	742.7	29.88	758.9	66	18.9	74	NW	8	3.6		0	0			0.09	2.3	Clear	
Portland, Maine	29.68	753.9	29.73	755.1	68	20.0	74	NW	3	1.3		2k	Haze	Calm		0	0	Fair	
Portland, Oregon	30.08	764.0	30.18	766.6	53	11.7	93	NW	1	0.4			2ks;fg		NW;SE	0	0	Foggy	
Prescott, Arizona	24.80	629.9	30.16	766.1	64	17.8	68	Calm			0	0	5s		Calm	0.88	22.4	Clearing	
Punta Rassa, Florida	30.05	763.3	30.07	763.8	82	27.8	87	E	8	3.6		2ck	5s	Calm	SW	0	0	Fair	
Red Bluff, California	29.46	748.3	29.80	756.9	75	23.9	37	NW	5	2.2		0	Haze		Calm	0	0	Clear	
Rochester, New York	29.21	741.9	29.79	756.7	68	20.0	79	W	8	3.6		0	0			0	0	Clear	
Roseburg, Oregon	29.57	751.1	30.14	765.5	51	10.6	90	Calm	0	0		0	Haze		Calm	0	0	Clear	
Sacramento, California	29.71	754.6	29.79	756.7	66	18.9	64	S	4	1.8		0	0			0	0	Clear	
St. Louis, Missouri	29.46	748.3	30.01	762.2	71	21.7	85	N	4	1.8		0	0			0.01	0.3	Clear	
St. Marks, Florida	30.06	763.5	30.07	763.8	77	25.0	95	Calm	0	0			8n		SW	0.01	0.3	Light rain	
St. Paul, Minnesota	29.19	741.2	29.98	761.5	64	17.8	73	N	6	2.7		5k	0	NW		0	0	Fair	
Salt Lake City, Utah	25.68	652.3	30.01	762.2	67	19.4	33	E	2	0.9		0	0			0	0	Clear	
San Antonio, Texas	29.25	742.9	29.80	756.9	79	26.1	91	SE	1	0.4		2c	0	Calm		0	0	Clear	
San Diego, California	29.82	757.4	29.88	758.9	68	20.0	84	Calm	0	0			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.28	743.7	29.92	760.0	67	19.4	79	W	8	3.6		0	0			0	0	Clear	
Sandy Hook, New Jersey	29.81	757.2	29.84	757.9	70	21.1	95	NW	9	4.0			10n		NW	0.11	2.8	Light rain	
San Francisco, California	29.76	755.9	29.83	757.7	53	11.7	93	SW	10	4.5			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.49	596.6	30.03	762.7	56	13.3	94	Calm	0	0			10n		Calm	1.38	35.1	Light rain	
Savannah, Georgia	29.99	761.7	30.08	764.0	86	30.0	76	SW	6	2.7		0	1ks		Calm	0	0	Clear	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	80	26.7	87	S	1	0.4		5c	0	S		0.10	2.5	Fair	
Silver City, New Mexico	24.38	619.2			61	16.1	94	Calm	0	0		5cs	0	Calm		0.18	4.6	Fair	
Smithville, North Carolina	30.01	762.2	30.04	763.0	83	28.3	87	SW	20	8.9		2c	1ks	Calm	SW	0	0	Fair	
Springfield, Massachusetts	29.63	752.6	29.76	755.9	70	21.1	85	S	1	0.4			10s		S	0	0	Cloudy	
Stockton, Texas	26.98	685.3	29.98	761.5	71	21.7	49	NE	12	5.4		4c	Haze	Calm	Calm	0	0	Fair	
Thatcher's Island, Mass.	29.73	755.1	29.78	756.4	68	20.0	84	W	5	2.2		5k	5s	NW	NW	0	0	Cloudy	
Toledo, Ohio	29.24	742.7	29.89	759.2	67	19.4	74	W	3	1.3		0	Haze		Calm	0	0	Hazy	
Tucson, Arizona	27.31	693.7	29.86	758.4	78	25.6	78	SW	2	0.9			10s		Calm	0	0	Cloudy	
Tybee Island, Georgia	30.05	763.3	30.08	764.0	83	28.3	79	SW	6	2.7		2ck	2ks	Calm	SW	0	0	Fair	
Umatilla, Oregon	29.63	752.6			64	17.8	58	SE	4	1.8		Sm'e	Sm'e	Calm	Calm	0	0	Smoky	
Uvalde, Texas	29.02	737.1	29.80	756.9	77	25.0	77	E	4	1.8		5ck	0	E		0	0	Fair	
Vicksburg, Mississippi	29.74	755.4	29.99	761.7	77	25.0	91	S	4	1.8		0	0			0	0	Clear	
Virginia City, Montana	24.43	620.5	29.91	759.7	64	17.8	48	SE	8	3.6		0	0			0	0	Clear	
Visalia, California	29.44	747.8	29.80	756.9	66	18.9	74	NE	1	0.4		0	0			0	0	Clear	
Washington, D. C.	29.80	756.9	29.91	759.7	69	20.6	95	N	9	4.0			10n		N	1.85	47.0	Light rain	
Wickenburg, Arizona					75	23.9	86	E			1	5cs	0	Calm		0.04	1.0	Fair	
Wilmington, N. Carolina	29.92	760.0	29.99	761.7	83	28.3	83	SW	15	6.7		8c;k	0	Calm;SW		0	0	Fair	
Winnemucca, Nevada	25.66	651.8	30.02	762.5	63	17.2	24	NE	12	5.4		0	Haze		Calm	0	0	Clear	
Wood's Holl, Mass.	29.76	755.9	29.81	757.2	70	21.1	84	W	3	1.3			10s		NW	Inap.	Inap.	Cloudy	
Yankton, Dakota	28.83	732.3	30.10	764.5	59	15.0	88	SW	1	0.4		0	0			0	0	Clear	
Yuma, Arizona	29.61	752.1	29.76	755.9	83	28.3	64	NE	4	1.8			10ks		SE	0	0	Cloudy	
Sub-Series.																			
St. Paul's Island, Alaska																			
York Factory, B. A.	30.00	762.0	30.05	763.3	56.0	13.3	84	NE	11	4.9		0	0			0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.00	762.0	30.02	762.5	83	28.3	79	E	3.6	1.6		0	0			0	0	Clear	Chas. Hasselbrink.
St. Thomas					78	25.6	91	E	5	2.2			10n			1.55	39.4	Covered	G. O. Gellich.
Kingston, Jamaica, W. I.	30.16	766.1	30.17	766.3	84	28.9	87	Calm	0	0		8c	2s	Calm	SE	0.13	3.3		James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	83.5	28.6		NE	10.4	4.6						6	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	82	27.8	79	E			3	4c	0	E		0.20	5.08	Clear	C. J. Hering.
Batavia, Dutch Guiana, S. A.																			Dr. H. Groot.
Medellin, Colombia, S. A.	25.28	642.1			67.0	19.4	80	Calm	0	0		1cs	7ks			0.05	1.3		Thomas Herrán.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.: Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.: Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.17	766.3	83	28.3	83	28.3	77	Calm	0	0	.....	.....	8	.....	SE	.....	.....	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.74‡	755.4‡	.....	.....	69	20.6	85	WSW	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	30.05*	763.3*	69.8	21.0	66.5	19.2	92	NNE	.....	.....	5	.....	10n	.....	NNE	0.05	1.3	.....	.....	Light rain	
Adams. Apia, Samoan Islands	29.98	761.5	79	26.1	79	26.1	95	ESE	.....	.....	1	.....	8	.....	E	.....	.....	.....	.....	Pleasant	
Alliance. N. 44° 50′, W. 8° 23′	30.00‡	762.0‡	.....	.....	69	20.6	65	WSW	.....	.....	2–3	.....	6	.....	WSW	.....	.....	Heavy	W	Cloudy	
Ashuelot. Kobe, Japan	29.99	761.7	78	25.6	78	25.6	100	NE	.....	.....	6	.....	8	.....	NE	.....	.....	Mod'ate	NE	Cloudy	
Alaska. S. 26° 14′, W. 43° 50′	30.11	764.8	74	23.3	71	21.7	90	NNE	.....	.....	5	.....	10	.....	NE	0	0	Heavy; rough	NE	D. clouds	
Canonicus. New Orleans, La	30.01	762.2	58	14.4	80	26.7	91	SE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Colorado. New York, N. Y.	29.80‡	756.9‡	.....	.....	71	21.7	85	SW	4	1.8	.....	.....	10	.....	W	0.05	1.3	.....	.....	Foggy	
Constitution. Havre, France	29.89‡	759.2‡	.....	.....	66	18.9	84	WSW	.....	.....	3	.....	3	.....	WSW	.....	.....	.....	.....	Clear	
Despatch. Volo, Turkey	29.90‡	759.4‡	.....	.....	80	26.7	58	SSE	.....	.....	4	.....	5	.....	SSE	.....	.....	.....	.....	Fair	
Franklin. Norfolk, Va.	30.02	762.5	82	27.8	80	26.7	100	SW	1	0.4	.....	.....	5	.....	SW	0.34	8.6	.....	.....	Fair	
Gettysburg Villefranche, France	29.75‡	755.6‡	.....	.....	84	28.9	91	ESE	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear	
Hartford. Rio de Janeiro, Brazil	30.04	763.0	.....	.....	79	26.1	63	N	6.0	2.7	.....	.....	2	.....	N	0	0	.....	.....	Fair	
Marion. Villefranche, France	29.85	758.2	79	26.1	79	26.1	78	SE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Michigan. Houghton, Michigan	29.45	748.0	67	19.4	66	18.9	79	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Yokohama, Japan	30.05‡	763.3‡	.....	.....	67	19.4	95	N	.....	.....	2–3	.....	10	.....	NNE	.....	.....	.....	.....	Cloudy	
New Hampshire. Port Royal, S. C.	30.27†	768.8†	.....	.....	82	27.8	79	WSW	5	2.2	.....	.....	2	.....	W	0	0	.....	.....	Clear	
Onward. Callao, Peru	30.16†	766.1†	.....	.....	61	16.1	82	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty	
Passaic. Washington, D. C.	29.98‡†	761.5‡†	.....	.....	72	22.2	100	Calm	.....	.....	0	.....	10	.....	.....	Blank	Blank	.....	.....	Cloudy	
Palos. Tientsin, China	29.94	760.5	82	27.8	77	25.0	86	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola. Mare Island, California	29.92	760.0	61	16.1	57	13.9	??	SSW	2	0.9	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Plymouth. New York, N. Y.	29.83‡	757.7‡	.....	.....	72	22.2	95	SW	.....	.....	0–1	.....	10	.....	N	.....	.....	.....	.....	Misty	
Ranger. Hong-Kong, China	29.97	761.2	80.5	26.9	81	27.2	96	SW	.....	.....	2–4	.....	8	.....	NE	.....	.....	.....	.....	Raining	
Rio Bravo. Brownsville, Texas	29.89	759.2	81	27.2	81	27.2	96	SE	.....	.....	1	.....	2	....	Calm	.....	.....	.....	.....	Fair	
Santee. Annapolis, Md.	29.93‡	760.2‡	.....	.....	75	23.9	72	N	.....	.....	1	.....	10	.....	W	0	0	.....	.....	Cloudy	
St. Louis. League Island, Pa	29.85	758.2	75	23.9	71	21.7	85	W	5	2.2	.....	.....	10	.....	W	0.15	3.8	.....	.....	Drizzling	
Supply. Havre, France	29.98	761.5	67	19.4	67	19.4	79	NW	.....	.....	1	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Swatara. Boston, Mass.	29.74‡	755.4‡	.....	.....	69	20.6	75	W	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Hazy	
Trenton. Cherbourg, France	29.89‡	759.2‡	.....	.....	73	22.8	58	WSW	.....	.....	3	.....	6	.....	S; W	0	0	.....	.....	Fair	
Tuscarora. Acapulco, Mexico	29.68	753.9	78	25.6	78	25.6	86	ENE	.....	.....	2	.....	8	.....	Calm	3.5	89.	.....	.....	Cloudy	
Vandalia. Naples, Italy	29.84‡	757.9‡	.....	.....	79	26.1	78	WSW	.....	.....	2	.....	2	.....	W	.....	.....	.....	.....	Clear	
Wabash. Boston, Mass.	29.77‡	756.1‡	.....	.....	76	24.4	68	W	2	0.9	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Wyoming. N. 40° 19′, W. 71° 42′	29.81†	757.2†	.....	.....	70	21.1	90	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Mod'ate	SW	Overcast	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 40° 30′, E. 176° 28′		30.37*	771.4*	68	20.0	100	SSE			2		3		E	0	Light smooth	E	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 39° 10′, W. 124°		29.89†	759.2†				NW			2		Fog				Mod'ate	NW	Dense fog	Capt. Seabury.
S. S. City of Peking, N. 33° 41′, E. 136° 37′		29.96†	761.0†	74	23.3	100	ENE	16	7.2			10		ENE	Light	Mod'ate	ENE	Overcast	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 47° 52′, W. 124° 50′		30.13†	765.3†	60	15.6	82	WSW			2		Haze				Heavy	WNW	Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.67*	753.6*	78	25.6		N			2		10		NW	2 hours			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 50° 51′, W. 24° 28′		29.61†	752.1†	62	16.7	100	N			4		3		N	Blank	Mod'ate	Cross	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 41° 32′, W. 175° 15′		30.09*	764.3*	65	18.3	100	N			3		ks		N		Smooth	NNE	D. clouds	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 34° 38′, E. 139° 04′		29.99	761.7	73	22.8	100	NE			4		8		NE		Smooth		Misty	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Queenstown, Ireland		29.77*	756.1*	63	17.2	89	SSW			4		5		NE	Light	Smooth	NNW	Cloudy	Captain Sargent.
S. S. Ohio, Delaware Bay		29.86	758.4	71	21.7	90	N			2		10		Calm	Mod'ate	None		Raining	Captain Morrison.
S. S. Pennsylvania, N. 41° 35′, W. 55° 42′		29.82†	757.4†	77	25.0	100	SW			4		10		SW	Blank	Mod'ate	SSW	Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 40° 07′ W. 59° 46′		29.87*	758.7*				SW	12	5.4			8		WSW		Heavy	WSW	Cloudy	Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, N. 43° 20′ W. 69° 00′		29.67	753.6	67	19.4	84	W	5	2.2			8ck		W	0	High	S	Cloudy	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		30.03*	762.7*	43.3	6.3	84	SW			3		10s		SW				Foggy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d}.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 12, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Mogador																			
Nemours																			Dr. Ollive.
Algiers			29.96	761.0	83.3	28.5	58	N			1		1			0	0	Very fair	Kesxuche.
La Calle			29.87	758.8	83.8	28.8	75	NE			2		1			0	0	Very fair	Tourillere.
Tunis			29.95	760.6	78.6	25.9	79	ENE			4		3			0	0	Pretty fair	Foufrede.
Sfax			29.97	761.1															Jacques.
Saida			30.03	762.7	89.6	32.0		NNE			3		0			0	0	Clear	Gau.
Tebessa			30.02	762.4	96.1	35.6	29	NNW			3		2			0	0	Fair	Herbin.
Geriville			29.94	760.4	91.8	33.2		SE			1		0			0	0	Clear	Watrin.
Laghouat			30.05	763.2	87.3	30.7	40	N			2		2			0	0	Fair	Brugnlaux.
Biskra			30.00	762.0	103.3	39.6	17	W			4		1			0	0	Very fair	Bertrand.
			29.93	760.2	103.3	39.6	25	WNW			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.34	745.3	29.86	758.5	79.5	26.4	57	NE			2	3				0	0		Prof. Ivan Stozir.
Cracow	29.09	738.8	29.81	757.1	75.6	24.2	69	E			1	5				0.073	1.85	Thunder-storm.	Prof. Dr. Karlinski.
Eperies	28.99	736.4	29.84	758.0	67.5	19.7	86	Calm			0	10k			N	0.030	0.75		Julius Mikoun.
Gratz	28.67	728.2	29.87	758.8	71.4	21.9	68	SW			2	2				0.921	23.40		Andreas Rospini.
Hermannstadt	28.48	723.3	29.83	757.6	77.4	25.2	52	SE			3	4				0.071	1.80		Prof. Reissenberg
Kremsmünster	28.47	723.2	29.75	755.7	72.0	22.2	62	ENE			3	2				0	0		Prof. C. Wagner
Lemberg	28.85	732.8	29.79	756.6	74.1	23.4	72	SE			2	6				0.126	3.2		Dr. T. Stanecki.
Pola	29.78	756.4	29.89	759.1	79.5	26.4	65	WSW			1	6ck				0.465	11.8		I.R.Hydrographic Office
Szathmar	29.44	747.7	29.88	758.9	77.7	25.4	61	W			3	6				0.016	0.4		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.81	757.1	29.91	759.7	80.6	27.0	46	SW			1	1				0	0	Fair	P. Busin.
Vienna	29.17	740.8	29.85	758.2	75.0	23.9	60	W			1	6				0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.39	721.0	29.85	758.2	65.5	18.6	64	SW			3	10				0.047	1.2		Prof. M. Passau.
Brussels	29.53	750.1	29.72	755.0	68.7	20.4	58	SSW			6	10		SW	SW	0.045	1.15		Royal Observatory
Furnes																			M. E. de Cae.
Maeseyck	29.68	753.9	29.84	757.1	68.5	20.3	78	SSW			4	9				0.035	0.9		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.26	741.7	29.29	744.0	68.4	20.2	.....	SSW	10	4.5	.....	.....	3	.....	.....	0.080	2.03	Blue sky.....	W. Boswell.
Ardrossan	29.34	745.2	29.36	745.7	62	16.7	.....	SSW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	29.44	747.8	58.5	14.7	.....	W	6	2.7	.....	.....	8	.....	.....	.....	.....	D clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.51	749.5	63.4	17.4	.....	W	17	7.6	.....	.....	0	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	29.33	745.0	29.52	749.8	59.1	15.1	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Showery.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.09	738.9	29.48	748.8	65.2	18.4	.....	W	.....	.....	4	.....	4	.....	.....	0.61	15.5	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	84.5	29.2	.....	NE	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.57	751.1	74.0	23.3	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	Drizzling.....	H. Todd. [H. C.
Cardington	.....	.....	29.56	750.8	74.0	23.3	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	John McLaren.
Chatham, School M. E	29.52	749.8	29.64	752.8	70.7	21.5	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.19	716.0	29.63	752.6	58.0	14.4	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	Raining.....	Alexander Watt, (Col. Mar-
Donaghadee	29.38	746.2	29.41	747.0	66	18.9	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	tin, R. E.
Dover	29.61	752.1	29.64	752.8	66	18.9	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded..	J. Costello.
Eccles, (near Manchester)	.....	.....	29.49	749.0	68.8	20.4	.....	NW	3.2	1.4	.....	.....	.....	.....	.....	.....	.....	Blue sky....	Thomas Mackereth.
Falmouth, Observatory	29.45	748.0	29.67	753.6	66.3	19.1	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.48	698.0	29.76	755.9	69.2	20.7	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	74	23.3	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.46	748.3	63	17.2	.....	WSW	.....	.....	6	.....	9	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.88	758.9	29.94	760.5	77.9	25.5	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.18	741.2	29.38	746.2	64 3	17.9	.....	WSW	.....	.....	5	.....	3	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.56	750.8	29.56	750.8	67	19.4	.....	SW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.41	747.0	29.58	751.3	63.9	17.7	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Thunder.....	The Staff, for G. B. Airy.
Guernsey	29.47	748.5	29.69	754.1	67.5	19.7	.....	WSW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.74	755.4	69	20.6	.....	NW	.....	.....	2	.....	3c	.....	.....	0.73	18.5	Fine.....	M. P. Moyle.
Holyhead	29.48	748.8	29.53	750.0	65	18.3	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.46	748.3	29.74	755.4	67.6	19.8	.....	WSW	.....	.....	4	.....	2	.....	.....	Blank	Blank	D. clouds....	J. Fisher.
Kew, Observatory	.....	.....	29.58	751.3	64.6	18.1	.....	SSW	14	6.3	.....	.....	9	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.48	748.8	29.51	749.5	65	18.3	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	George Mitchell.
Leicester, Museum	.....	.....	29.53	750.0	62.8	17.1	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	Wm. J Harrison, F.G.S.
Malta, (Mediterranean)	29.80	756.9	29.88	758.9	82	27.8	.....	NW	.....	.....	1	.....	1k	.....	.....	.....	.....	D. clouds.....	H. J. Becket, A. H. C.
Nairn	29.19	741.4	29.28	743.7	68	20.0	.....	WNW	.....	.....	1	.....	2	.....	.....	.....	.....	¼ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.03	762.7	86.5	30.3	.....	NE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.44	747.8	29.62	752.3	69.3	20.7	.....	SW	.....	.....	3	.....	5ks;1c	.....	.....	SW	0.248	6.30	D. clouds....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.09	736.6	29.50	749.3	71.2	21.8	.....	WSW	.....	.....	3-4	.....	7	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.56	750.8	70	21.1	.....	W	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	29.56	750.8	29.63	752.6	65.9	18.8	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	John Merrifield.
Roche's Point	29.54	750.3	29.58	751.3	66	18.9	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	29.45	748 0	29.60	751.8	61	16.1	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.28	743.7	57.1	13.9	.....	WSW	13	5.8	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.86	758 4	82 0	27.8	.....	NE	.....	.....	2	.....	4	.....	.....	Blank	Blank	D. clouds....	Sergt. W. H. Lyne.
Sheffield	29.27	743.4	29.54	750.3	67.9	19.9	.....	SW	.....	.....	4	.....	4	.....	.....	0.01	0.3	D. clouds....	W. F. Cooper.
Silloth Rectory	29.42	747.3	29.45	748.0	69.6	20.9	58	SW	.....	.....	4	.....	0	.....	.....	0.160	4.06	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.12	739.6	29.52	749.8	62.6	17.0	.....	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	Squally.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C., (Hebr.)	29.17	740.9	29.20	741.7	61	16.1	.....	SE	.....	.....	4	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	29.28	743.7	61	16.1	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.70	754.4	68	20.0	.....	W	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.62	752.3	63.2	17.3	.....	W	27	12.1	.....	.....	8	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.23	742.4	51.0	10.6	79	NW	.....	.....	5	.....	6k	.....	.....	0.25	6.3	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.2	71.7	22.1	59	ESE	15.0	6.7	.....	0	2	.....	ESE	0.01	0.3	Fine.....	C. Meldrum.
Melbourne, Observatory	29.57	751.1	29.66	753.3	50.1	10.1	67	NW	20	8.9	.....	.....	9	.....	.....	0.11	2.8	Showery.....	R. L. J. Ellery.
Monach Li'ti-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A. T. Miller.
Brig Catherine, N. 55° 5′, W. 51° 25′	5	.....	Showery	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 40° 35′, W. 69° 30′	3	.....	D. clouds....	Capt. Alex Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Señor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	.....	.....	65.3	18.5	91	NE	.....	.....	1	5cs	p	.....	.....	Inap.	Inap	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.68	753.8	29.72	755.0	69.3	20.7	53	SW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	
Fanöe	29.64	752.9	29.66	753.4	69.3	20.7	70	SW	.....	.....	4	.....	9	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.55	750.6	29.60	751.7	40.5	4.7	97	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Foggy	
Stykkisholm, (Iceland)	29.68	753.8	29.72	754.9	53.6	12.0	76	E	.....	.....	4	.....	5	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.39	746.5	29.43	747.4	52.0	11.1	98	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Vestervig	29.48	748.7	29.65	753.0	67.3	19.6	74	SW	.....	.....	4	.....	6	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.32	744.7	29.87	758.7	69.1	20.6	80	SW	.....	.....	3	.....	10	.....	.....	0.035	0.90	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.86	758.4	29.94	760.4	82.0	27.8	35	E	.....	.....	2	.....	0	.....	.....	0	0	Very clear..	M. Giraud, Director.
Bar-sur-Seine	29.31	744.4	29.84	758.0	72.9	22.7	48	S	.....	.....	1	.....	Skn	.....	SW	0.008	0.2	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.52	749.9	29.89	759.0	68.4	20.2	74	S	.....	.....	1	.....	8	.....	WSW	0.010	0.25	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.02	737.2	29.87	758.8	73.6	23.1	54	SSW	.....	.....	2	.....	2	.....	SW	0.256	6.5	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School	29.06	738.0	29.98	761.6	78.8	26	45	SW	.....	.....	1	2c	.....	.....	SW	0.04	1.	Slightly cl'dy	M. Marlot, Director.
Bourges, Normal School	29.32	744.6	29.84	758.0	72.5	22.5	66	SW	.....	.....	1	.....	2k	.....	W	0	0	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.48	748.7	29.72	754.8	70.9	21.6	70	WSW	.....	.....	3	.....	9	.....	WSW	0.236	6.00	.....	The Staff.
Carcassonne, Normal School	29.51	749.5	29.90	759.5	78.8	26	46	W	.....	.....	1	.....	5	W	.....	0	0	Cloudy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.22	742.3	29.77	756.2	69.4	20.8	85	SW	.....	.....	6	.....	10	.....	E	0.08	2.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.52	749.8	29.82	757.5	70.9	21.6	66	S	.....	.....	4	.....	10	N	N	0.004	0.1	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.55	725.2	29.84	757.8	77.0	25.0	46	E	.....	.....	1	.....	.....	.....	SW	0	0	.....	Allnard, Director.
Commercy, Normal School	29.06	738.0	29.91	759.6	69.8	21	57	W	.....	.....	3	.....	Skn	.....	W	0.209	5.3	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	28.85	732.9	30.09	764.9	84.2	29.0	26	N	.....	.....	2	.....	2	.....	SW	0	0	¾ covered	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.66	753.4	29.91	759.7	69.8	21.0	80	SW	.....	.....	4	.....	10	.....	W	0.039	1.0	Covered	Mouillot, Director.
Le Mans, Normal School	29.51	749.5	29.81	757.1	66.6	19.2	81	SW	.....	.....	4	.....	8	.....	SW	0.030	0.75	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.09	736.6	29.88	758.9	74.3	23.5	41	W	.....	.....	2	.....	5	.....	E	0.622	15.80	Cloudy	Baudry, Director.
Lorient, Naval Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	72.1	22.3	74	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Galzin, Director.
Mirecourt, Normal School	28.86	733.0	29.74	755.5	71.6	22	72	W	.....	.....	1	.....	Skn	.....	SW	0.28	7.	Very cloudy	M. Barbier, Director.
Nismes, Normal School	29.72	755.0	29.91	759.8	88.9	31.6	41	SW	.....	.....	2	.....	2	.....	S	0	0	Slightly cl'dy	Boyer, Director.
Orleans, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bernard, Director.
Paris, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	National Observatory.
Privas, Normal School	28.90	734.1	29.91	759.8	80.6	27	38	S	.....	.....	1	c	.....	S	S	0	0	.....	M. Cantier.
Puy de Dome (Summit)	25.15	638.9	.....	.....	54.9	12.7	56	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	Allnard, Director.
Rochefort, Naval Obs'y	29.87	758.7	29.90	759.5	72.3	22.4	72	SW	.....	.....	5	.....	8	.....	SW	0.04	1.	¾ Covered	M. Giguel, Director.
Rouen, Normal School	29.66	753.4	29.75	755.6	66.2	19.0	82	SE	.....	.....	1	.....	10	.....	SW	0	0	Covered	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.73	755.2	67.3	19.6	76	WNW	.....	.....	1	.....	1	.....	W	0.061	1.55	Clear	M. H. Hercouet.
Tarbes, Normal School	28.92	734.6	29.97	761.1	71.6	22	66	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.23	742.4	29.95	760.8	77.9	25.5	76	SE	.....	.....	1	.....	5	.....	NW	0	0	Cloudy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.25	108.	.....	L'Abbé Marchès.
Lyons	.....	.....	29.96	760.9	77.2	25.1	39	.....	.....	.....	.....	.....	4	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.91	759.8	79.3	26.3	45	WSW	.....	.....	2	.....	3	.....	.....	0	0	.....	The Staff.
Mont-Louis	24.89	632.2	30.21	767.2	64.4	18.0	46	NNE	9.3	4.17	.....	.....	4	.....	S	0	0	.....	M. Cave.
Nice	.....	.....	29.93	760.2	77.0	25.0	76	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.52	749.8	29.80	756.8	70.3	21.3	57	SW	.....	.....	4	.....	10	.....	SW	0.016	0.4	.....	Marié Davy, Director
Perpignan	.....	.....	29.95	760.6	77.0	25.0	63	SE	7.4	3.33	.....	.....	7	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.60	574.0	.....	.....	60.4	15.8	.....	W	.....	.....	1	.....	8	.....	.....	0	0	Fair	Gen'l de Nansouty
Saint Maur, (near Paris)	29.61	752.9	29.81	757.1	71.1	21.7	52	SSW	.....	.....	2-3	.....	10	.....	SW	0.075	1.9	Rainy	E. Renou.
Toulouse, Observatory	29.26	743.3	29.98	761.6	75.6	24.2	42	SE	.....	.....	1	.....	8	.....	.....	0	0	.....	The Staff.
Tours	29.65	753.0	29.84	758.0	72.0	22.2	60	SW	.....	.....	3	.....	10	.....	WSW	0.008	0.2	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	29.82	757.3	70.9	21.6	46	SW	.....	.....	3	.....	10	.....	.....	0	0	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.85	758.2	29.87	758.8	78.8	26.0	94	E	8.1	3.6	.....	.....	2	.....	.....	0	0	Clear	Marc Dechevrens, S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 303 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.94	735.0	29.77	756.2	74.5	23.6	77	NW			2		4	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.66	753.4	29.83	757.6	74.3	23.5	50	SW			3		7			0	0		Prof. Arndt.
Breslau	29.36	745.8	29.89	759.2	72.7	22.6	62	WNW			2		7			0	0		Royal University Obs'y
Carlsruhe	29.42	747.3	29.83	757.7	73.0	22.8	73	SW			2		10			0	0		Albert Senz.
Cassel	29.26	743.1	29.86	758.5	71.2	21.8	56	SSW			2		8	SW		0.126	3.20		Dr. H. Möhl.
Crefeld	29.61	752.1	29.77	756.2	70.7	21.5	62	S			4		9			0	0		Director Lose.
Emden	29.62	752.3	29.66	753.3	69.6	20.9	69	SW			1		10			0.028	0.7		Prof. Prestel.
Frankfort on the Main	29.59	749.4	29.85	758.3	74.3	23.5		SW			2		6			0.319	8.1		Physical Society.
Friedrichshafen	28.48	723.5	29.87	758.7	68.7	20.4	67	SW			2		6	SW		0	0		M. Wilhelm.
Hamburg	29.72	754.8	29.78	756.5	69.3	20.7	65	S			4		10			0.008	0.2	Light squalls	Captain F. Hegemann.
Kiel	29.71	754.7	29.73	755.1	72.1	22.3	56	SW			4		8			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.68	753.8	29.76	755.8	74.8	23.8	62	SW			5		6			0	0		Prof. E. Luther.
Köslin			29.70	754.3	66.2	19.0		W			2		4			0.350	8.9		H. Müller.
Leipsic, Observatory	29.47	748.4	29.87	758.7	72.7	22.6	44	W			3		7			0.039	1.0		Prof. Bruhns.
Memel, Naval School																			Reinbrecht and Skalweit.
Neufahrwasser	29.77	756.2	29.79	756.6	69.3	20.7	83	WNW			4		9			0.322	8.2	Raining	A. Lothes.
Posen	29.61	752.1	29.89	759.1	73.4	23.0	62	W			6		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.35	745.4	29.87	758.7	74.3	23.5	62	S			3		8	W		0.285	7.24		Astronomical Observatory.
Stuttgart	28.93	734.8	29.82	757.4	77.0	25.0	43	W					6	E		0	0		Prof. Schoder.
Treves, (Trier)	29.21	741.9	29.72	755.0	69.6	20.9	68	SW			5		10			0.002	0.05		Prof. Flesch.
Weissenburg, (Bavaria)	28.40	721.4	29.84	757.9	70.5	21.4	62	WSW	2.0	0.9			8		W	0.059	1.5		Dr. Von Bebber.
Wustrow, Naval School	29.78	756.5	29.82	757.5	66.9	19.4	67	W			2		4			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.8	29.85	758.2	86.4	30.2		SW			1.5		k					Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee					77.5	25.3	97	SSE					10		SSE	0.58	14.7	Overcast	
Deesa	29.06	738.2	29.54	750.3	81.3	27.4	91	WSW	19	8.5			10		WSW	0.09	2.3	Overcast	
Bombay	29.61	752.2	29.65	753.1	81.3	27.4	91	WSW	19	8.5			10		SW	0.06	1.5	D. clouds	
Poona	27.69	703.3	29.69	754.2	74.8	23.8	87	SW					10			0	0	D. clouds	
Lahore	28.83	732.4	29.56	750.7	91.1	32.8	67	NE	2.1	0.9			3			0	0	D. clouds	
Belgaum	27.20	690.7	29.74	755.4	72.0	22.2	94	W	5	2.2			10		W	0.52	13.2	Overcast	
Bangalore																			
Roorkee	28.69	728.8	29.56	750.9	91.2	32.9	56	E	6.8	3.0			7			0	0		
Agra	29.02	737.1	29.56	750.9	94.6	34.8	53	E					4		E	0	0		
Trichinopoly																			
Nagpur	28.57	725.7	29.61	752.1	78.1	25.6	91	SW	4.2	1.9			10		E	0.78	19.8	Drizzling	
Madras																			
Lucknow																			
Allahabad	29.27	743.4	29.57	751.1	88.1	31.2	71	Calm	4.6	2.1			2			0	0	D. clouds	
Patna	29.43	747.4	29.60	752.0	88.2	31.2	73	E	4.0	1.7			6	E	E	0	0	D. clouds	
Hazaribagh	27.64	702.1	29.64	753.0	77.8	25.4	87	ESE	11.8	5.3			6		SE	0.17	4.3	Showery	
Cuttack	29.55	750.6	29.63	752.6	81.0	27.2	87	ENE	2.3	1.0			9			0.30	7.6	Drizzling	
Calcutta (Alipore)	29.65	753.0	29.67	753.6	80.9	27.2	85	SE	7.0	3.1			6	S		0	0	D. clouds	
Goalpara	29.28	743.7	29.66	753.4	87.3	30.7	64	SW	1.3	0.6			1			0	0	D. clouds	
Chittagong	29.65	753.2	29.75	755.5	78.8	26.0	89	ESE	4.8	2.2			10			0	0	D. clouds	
Sibsagar	29.36	745.9	29.70	754.2	86.7	30.4	73	NNE	3.9	1.7			3			0.47	11.9	Blue sky	
Rangoon																			
Jubbulpore	28.22	716.8	29.58	751.2	79.1	26.2	91	SE	3.6	1.6			10			0.24	6.1	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.52	749.7	29.91	759.7	80.4	26.9	37	SE	0.7	0.3	.....	.....	5	.....	.....	0.244	6.2	.....	Prof. Giovanni Clodig.
Padua	29.89	756.9	29.91	759.6	77.9	25.5	59	NE	1.3	0.6	.....	.....	5	SE	.....	0.996	25.3	.....	Prof. Dott. Lorenzoni
Vicenza	29.72	754.9	29.90	759.5	79.2	26.2	57	SE	0.7	0.3	.....	.....	4	W	.....	0.146	3.7	.....	Conte Alm. Da Schio.
Bergamo	28.60	726.5	29.85	758.2	78.8	26.0	55	W	.....	.....	2	.....	4	.....	.....	0.161	4.1	.....	Prof. Trionfini Carlo.
Milan	29.41	746.9	29.89	759.3	80.6	27.0	50	ENE	.....	.....	2	.....	3	WSW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.03	737.3	29.89	759.3	75.9	24.4	65	NNW	3.8	1.7	.....	.....	6	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.03	711.9	29.85	758.1	75.6	24.2	57	N	.....	.....	4	.....	3	E	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.75	755.7	29.97	761.1	75.2	24.0	73	E	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.75	755.7	29.91	759.8	77.7	25.4	63	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.59	751.6	29.89	759.3	80.6	27.0	49	E	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.65	753.2	29.90	759.4	81.1	27.3	37	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.78	756.4	29.86	758.5	77.9	25.5	63	W	4.9	2.2	.....	.....	1	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.85	758.3	29.90	759.4	77.4	25.2	61	N	.....	.....	.....	.....	2	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.40	721.3	29.88	759.0	74.5	23.6	59	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.73	755.2	29.90	759.5	84.7	29.3	43	S	9.4	4.2	.....	.....	3	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.74	755.3	29.93	760.2	81.7	27.6	49	SW	.....	.....	4	.....	3	W	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.63	752.7	29.87	758.8	86.0	30.0	36	WNW	6.3	2.8	.....	.....	5	WNW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.70	754.4	29.89	759.1	84.0	28.9	59	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.02	737.2	29.86	758.4	86.4	30.2	60	SW	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.67	753.7	29.92	759.9	79.9	26.6	59	ENE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.83	757.7	29.90	759.5	83.8	28.8	64	SE	.....	.....	4	.....	10	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.39	746.6	29.95	760.7	80.6	27.0	61	SSW	2.5	1.1	.....	.....	3	S	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.70	754.4	29.89	759.2	77.7	25.4	82	NNE	1.0	0.4	.....	.....	3c;ck	.....	.....	0	0	Fair	.....
Tokei (Yeddo) Observatory	29.99	761.7	30.05	764.3	71.7	22.1	96	Calm	0	0	.....	.....	10s;ks	.....	.....	0.010	0.25	Cloudy	I. Arai, Director.
Tokei (Yeddo) University	29.94	760.5	30.04	763.0	71.5	21.9	99	Calm	0	0	.....	.....	10s	.....	.....	0.57	14.5	Cloudy	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	67.9	19.5	75	NE	1.8	0.8	.....	5c	2k	NE	E	0.15	3.8	Cloudy	L. Castillo, A. E.
Guadalajara	25.08	639.9	30.03	762.7	58.6	14.8	87	NW	0.9	0.4	.....	0	10	.....	SE	0.99	25.0	Covered	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	24.42	620.2	29.92	760.1	65.8	18.8	73	NW	0.9	0.4	.....	4c	0	E	.....	0	0	½ cloudy	Prof. M. Leal.
Mexico	23.08	586.3	30.04	763.1	56.3	13.5	85	NW	2.2	1.0	.....	3ck	4ks	N	.....	0.29	7.5	.....	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.7	17.6	73	NNE	1.8	0.8	.....	0	10kn	.....	SE	0	0	Covered	M. V. de Leon, M. E
Puebla	23.32	592.4	29.92	759.9	58.3	14.6	88	E	1.1	0.5	.....	4ck	8s	E	.....	0.04	1.0	Very cloudy	Prof. B. Gonzalez.
Tlacotalpam	29.87	758.8	29.89	759.7	78.8	26.0	91	Calm	0	0	.....	0	10n	.....	NW	0.26	6.5	Rainy	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.06	763.4	64.0	17.8	74	E	0.9	0.4	.....	1	8	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.89	759.2	29.92	759.9	82.4	28.0	73	NNW	6.7	3.0	.....	0	9sk	.....	SE	0.63	16.0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	86	NNE	11.0	4.9	.....	3	5	.....	.....	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.7	29.99	761.7	56.7	13.7	86	NE	.....	.....	.....	5	0	.....	.....	0.12	3.0	½ cloudy	Prof. P. Spina, [M.M. D. D.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.28	718.4	29.91	759.6	77.5	25.3	85	NE	1.8	0.8	.....	0	8	.....	SE	0.05	1.3	Cloudy	R. Banda, C. E.
San Juan E. Michapam	29.68	753.9	29.83	757.6	78.6	25.9	.....	N	1.8	0.8	.....	0	10n	.....	N	0.52	13.3	Covered	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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Note.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.1 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.8 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.71	754.6	29.71	754.6	64.0	17.8	.....	S	.....	.....	5	.....	.....	.....	.....	0	0	.....	.....
Groningen	29.63	752.7	29.69	754.1	66.4	19.1	.....	S	.....	.....	4	.....	.....	.....	.....	0.039	1.0	.....	.....
Helder	29.65	753.1	29.65	753.1	67.5	19.7	.....	SSW	.....	.....	5	.....	.....	.....	.....	0.154	3.9	.....	.....
Hellevoetsluis	29.69	754.1	29.69	754.1	68.0	20.0	81	SSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....
Utrecht	29.67	753.5	29.71	754.7	70.3	21.3	57	SSW	.....	.....	4	.....	5	.....	.....	0.126	3.2	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.50	749.3	29.56	750.7	65.5	18.6	57	SSE	6.5	2.9	.....	.....	7	.....	.....	0	0	....	
Brönö	29.43	747.6	29.47	748.6	55.0	12.8	75	NNW	18	8	.....	.....	7	.....	.....	0	0	.....	
Christiania	29.35	745.5	29.49	749.0	71.4	21.9	48	WSW	4	2	.....	.....	9	.....	.....	0.913	23.2	.....	
Tromsö	29.54	750.4	29.59	751.5	50.7	10.4	69	N	9	4	.....	.....	5	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.91	759.6	30.09	764.3	73.6	23.1	88	W	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.95	735.3	29.92	760.0	84.2	29.0	29	ENE	1.3	0.6	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.00	761.9	30.08	764.1	78.3	25.7	65	SW	3.8	1.7	.....	.....	8	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.65	753.1	30.00	761.9	77.2	25.1	48	N	16.1	7.2	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.07	763.6	30.13	765.3	79.4	26.4	76	W	6.9	3.1	.....	.....	4	.....	.....	0.047	1.2	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44', W. 25° 41'	.....	.....	30.13	765.2	76.1	24.5	.....	Calm	.....	.....	0	.....	7	....	NE	2	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 19° 43', E. 57° 31'	.....	.....	30.10	764.4	75.7	24.5	.....	Calm	.....	.....	0	.....	4	.....	SW	3	.....	Misty	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13', E. 12° 02'	.....	.....	30.04	762.9	65.8	16.6	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07', W. 23° 0'	.....	.....	29.97	761.1	80.6	27.0	.....	NNE	.....	.....	4	.....	8	.....	NNE	3	NNE	D. Clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	.....	.....	29.99	761.7	70.7	21.5	.....	W	.....	.....	2	.....	6	.....	W	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.39	746.6	29.80	756.8	78.4	25.8	52	W	4	2	.....	.....	4kcks	.....	.....	.....	.....	....	Astronomical Obs.
Wilna	29.37	746.1	29.77	756.1	81.5	27.5	47	S	4	2	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.43	747.6	29.66	753.4	82.6	28.1	53	SSW	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.63	752.6	29.65	753.0	74.5	23.6	62	S	16	7	.....	.....	10ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.28	743.8	29.88	758.9	81.3	27.4	33	SSE	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	84.2	29.0	31	E	4	2	.....	.....	6k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.85	760.6	29.97	761.1	75.2	24.0	67	NE	11	5	.....	.....	1	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.43	747.6	29.95	760.8	77.5	25.3	42	S	9	4	.....	.....	2k	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.75	755.7	29.95	760.6	81.7	27.6	27	E	4	2	.....	.....	2c	.....	.....	.....	.....	.....	Meteorological Obs
Archangel	29.61	752.0	29.63	762.5	54.1	12.3	74	Calm	0	0	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.44	721.7	29.74	755.5	84.0	28.9	42	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.99	761.7	29.91	759.6	70.3	21.3	62	NE	18	8	.....	.....	9s;n	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.68	753.9	29.93	760.3	75.9	24.4	49	W	4	2	.....	.....	4	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.86	733.0	29.79	756.6	59.0	15.0	78	WNW	18	8	.....	.....	10n	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.58	751.4	29.80	757.0	84.0	28.9	25	NNE	22	10	.....	.....	2ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.14	714.8	29.73	755.1	85.6	29.8	58	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.60	751.9	30.11	764.8	64.6	18.1	32	WNW	0	0	.....	.....	1	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.65	753.0	29.93	760.2	55.0	12.8	74	WSW	4	2	.....	.....	4	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.76	756.0	29.91	759.6	73.9	23.3	91	N	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 5° 47', E 4° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.80	757.0	29.91	759.6	83.8	28.8	61	S	4.9	2.2	.....	3	6	SW	.....	0.059	1.49	½ covered ...	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.89	759.3	29.95	760.7	81.9	27.7	55	NW	2.6	1.15	.....	2	1	SW	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.06	687.2	.....	.....	80.6	27.0	38	SW	3 6	1.62	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.73	704.4	29 80	756.9	92.1	33.4	23	SW	11.2	5.00	.....	0	5	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.78	756.4	29.92	760.0	92.3	33.5	50	SW	3.8	1.7	.....	.....	.....	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.07	738.3	29.95	760.6	66.4	19.1	87	SW	11.2	5.00	.....	.....	10	.....	.....	0	0	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.1	29.99	761.8	81.0	27.0	75	ESE	3.4	1.5	.....	0	0	.....	.....	0	0	Clear	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.87	758.8	29.97	761.2	76.8	24.9	73	SSW	12.4	5.6	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	760.4	30.03	762.7	83.5	28.6	84	SE	4.3	1.93	.....	4c	5k	SE	SE	0.049	1.25	Cloudy	Leonardo de Tejeda, Ch't Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.52	749.9	29.56	750.9	54.3	12.4	.....	NE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.32	744.7	29.37	746.0	57.6	14.2	90	NE	.....	.....	4	.....	10	.....	.....	0.449	11.4	.....	
Hernosand	29.34	745.1	29.39	746.4	62.8	17.1	80	N	.....	.....	4	.....	9	.....	.....	0.488	12.4	Raining	
Stockholm	29.36	745.7	29.54	750 2	72.1	22.3	53	W	.....	.....	4	.....	5	.....	.....	0	0	.....	
Wisby	29.57	751.0	29.63	752.5	69.8	21.0	57	W	.....	.....	7	.....	0	.....	.....	0.008	0.2	.....	
Sub-Series.																			
Upsala	29.40	746.8	29.48	748.7	71.8	23.1	49	SW	15.0	6.7	.....	.....	8	W	W	0	0	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.50	724.0	29.87	758.7	75.2	24.0	49	WSW	.....	.....	2	.....	3	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.31	719.1	29.89	759.3	71.2	21.8	67	W	.....	.....	1	.....	4	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.8 mm.; Thermometer, +2.0 cent.; Relative Humidity, —5 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.87	758.7	76.1	24.5	56	NE	13	6.0	.....	.....	4	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.02	762.5	79.2	26.2	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	.....	
Sub-Series.																0	0	.....	A. Bertrand.
Beirut, (Syria,) Lee Obs'ty	29.64	752.8	29.76	755.8	85.1	29.5	61	NW	.....	.....	1	.....	1k	.....	NW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.64	752.8	29.71	754.6	67.4	19.7	75	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.61	752.1	29.91	759.7	67	19 4	.....	E	1	0.4	.....	0	2s	.....	E	0.29	7.4	Clear	W. R. Bigg.
*Chatham, N B	29.67	753.6	29.73	755.1	63	17.2	83	SW	1	0.4	.....	2ck	0	SW	.....	Inap.	Inap.	Fair	G. A. Blair.
Charlottetown, P. E. Island.	29.68	753.9	29.72	754.9	68	20.0	78	W	3	1.3	.....	2c	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.71	754.6	29.90	759.4	63.5	17.5	78	W	.....	.....	1	0	0	.....	.....	0.325	8.26	Clear	James Smith, M. A.
Dalhousie, N. B	29.54	750.3	29.70	754.4	65	18.3	84	W	.....	.....	1	.....	.....	.....	.....	0	0	Clear	H. A. Johnson.
Esquimault, B. C	30.03	762.7	30.08	764.0	53.2	11.8	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.72	754.9	29.74	755.4	58	14.4	88	SW	18	8.0	.....	5k	5ks	NW	NW	Inap.	Inap.	Cloudy	J. McWilliams.
Fredericton, N. B	29.72	754.9	29.78	756.4	64.7	18.2	70	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.07	738.4	29.88	758.9	54	12.2	93	SW	4	1.8	.....	0	Haze	.....	SW	0.030	0.76	Hazy	James Stewart.
Granton, Ontario	28.90	734 0	29.98	761.5	60	15.6	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.60	751.8	29.73	755.1	68	20.0	77	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	F. Allison, M. A.
Hamilton, Ontario	29.63	752.6	29.99	761.7	63.9	17.7	76	W	.....	.....	2	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.62	752.3	29.64	752.8	53	11.7	86	NE	.....	.....	1	0	10	.....	.....	0	0	Clear	E. Weedon.
*Kingston, Ontario	29.60	751.8	29.92	760.0	66	18.9	82	NE	4	1.8	.....	0	0	.....	.....	0	0	Foggy	S. Woods, M. A.
Little Glace Bay, N. S	29.68	753.9	29.72	754.9	69.0	20.6	.....	W	6	2.7	.....	2k	0	W	.....	0	0	Clear	C. H. Rigby.
*Montreal, Quebec	29.69	754.1	29.88	758.9	62	16.7	77	W	3	1.3	.....	0	2s	.....	Calm	0.06	1.5	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.30	744.2	29.98	761.5	61	16.1	92	N	2	0.9	.....	2ck	0	NW	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.22	742.2	29.94	760.5	67.1	19.5	71	W	.....	.....	2	0	0	.....	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Dover, Ontario	29.31	744.5	29.98	761.5	61	16.1	83	NW	3	1.3	.....	Haze	Haze	.....	.....	0	0	Fine	H. Morgan.
Port Hastings, N. S	29.70	754.4	29.75	755.6	62.6	17.0	.....	NW	6	2.7	.....	.....	.....	.....	.....	0	0	Hazy	Peter Grant.
Port Stanley, Ontario	29.35	745.5	29.98	761.5	61	16.1	82	NW	2	0.9	.....	0	0	.....	.....	0	0	Fine	M. Payne.
*Quebec, Quebec	29.52	749.8	29.83	757.7	59	15.0	91	Calm	.....	.....	0	2ks	2ks	Calm	Calm	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.51	749.5	29.96	761.0	61	16.1	80	NW	4	1.8	.....	.....	8s	.....	NW	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.73	755.1	29.78	756.4	65	18.3	83	NW	1	0.4	.....	0	0	.....	.....	0.07	1.8	Fair	Dr. Gove.
St. John, N. B	29.62	752.3	29.78	756.4	66	18.9	100	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.29	744.0	29.98	761.5	65	18.3	77	NE	5	2.2	.....	.....	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.18	741.2	29.94	760.5	61	16.1	94	NW	1	0.4	.....	.....	10ks	.....	E	0	0	Cloudy	R. J. Cole.
Stratford, Ontario	28.72	729.5	29.97	761.2	59.3	15.2	97	NW	3	1.3	.....	0	10n	.....	NW	0.08	2.0	Light rain	C. J. MacGregor, M. A.
*Sydney, C. B	29.69	754 1	29.72	754.9	69	20.6	72	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.96	761.0	63	17.2	85	W	2	0.9	.....	0	2ks	.....	W	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	54.0	12.2	93	NE	.....	.....	.....	.....	8ck	2s	W	W	0	0	Cloudy	Prof. John E. Orait.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10n	.....	.....	0.06	1.5	Light rain	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Low'r 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.69	754.1	29.91	759.7	66	18.9	74	Calm	0	0	.....	0	0	.....	.....	0.09	2.3	Clear	
Alpena, Michigan	29.35	745.5	29.98	761.5	60	15.6	82	NW	3	1.3	...	0	Haze	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.94	760.2	29.95	760.7	70	21.1	90	NW	7	3.1	.....	10c;ck	0	Calm;SW	.....	0.21	5.3	Cloudy	
Augusta, Georgia	29.84	757.9	30.02	762.5	84	28.9	71	NW	1	0.4	.....	2c	Haze	W	.....	Inap.	Inap.	Fair	
Baltimore, Maryland	29.94	760.5	29.99	761.7	71	21.7	62	N	5	2.2	.....	8k	2s	W	Calm	0.08	2.0	Cloudy	
Barnegat, New Jersey	29.93	760.2	29.95	760.7	69	20.6	75	N	10	4.5	.....	10ck	Haze	W	Calm	0.01	0.3	Cloudy	
Bismarck, Dakota	28.17	715.5	30.03	762.7	59	15 0	70	Calm	0	0	.....	1cs	Sm'e	Calm	.....	0	0	Clear	
Boerne, Texas	28.56	725.4	.....	.....	80	26.7	66	SE	3	1.3	.....	5ck	0	Calm	.....	0	0	Fair	
Boise City, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boston, Massachusetts	29.76	755.9	29.91	759.7	70.3	21.4	60	W	5	2.2	.....	1cs	Sm'e	Calm	Calm	Inap.	Inap.	Clear	
Brackettville, Texas	28.84	732.5	29.83	757.7	78	25.6	76	E	4	1.8	.....	5cs	8s	Calm	Calm	Inap.	Inap.	Threatening	
Breckenridge, Minnesota	28.92	734.6	29.89	759.2	57	13.9	94	SE	6	2.7	.....	0	0	.....	.....	0.12	3.0	Clear	
Brownsville, Texas	29.90	759.4	29.96	761.0	81	27.2	82	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.28	743.7	29.95	760.7	66	18.9	69	W	1	0.4	.....	2k	Haze	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	91	32.8	51	N	.....	.....	1	8k	0	E	.....	0	0	Fair	
Burlington, Vermont	29.66	753.4	29.91	759.7	64	17.8	78	S	3	1.3	.....	1k	0	NW	.....	0.12	3.0	Clear	
Cairo, Illinois	29.64	752.8	30.01	762.2	74	23.3	81	N	4	1.8	.....	5ck	Haze	NW	.....	Inap.	Inap.	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	66	18.9	90	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.24	641.1	30.04	763.0	69	20.6	80	E	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Camp Verde, Arizona	26.76	679.7	30.24	768.1	74	23.3	68	S	.....	.....	1	5c	0	Calm	.....	0.08	2.0	Fair	
Campo, California	27.32	693.9	29.89	759.2	63	17.2	83	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.98	761.5	29.99	761.7	75	23.9	90	W	12	5.4	.....	.....	10n	.....	SW	2.31	58.7	Light rain	
Cape Henry, Virginia	29.97	761.2	30.00	762.0	75	23.9	91	SW	8	3.6	.....	.....	10s	.....	SW	0.38	9.7	Cloudy	
Cape Lookout, N. Carolina	29.97	761.2	29.99	761.7	77	25.0	91	SW	13	5.8	.....	.....	10s	.....	SW	2.25	57.1	Cloudy	
Cape May, New Jersey	29.95	760.7	29.98	761.5	72	22.2	71	N	8	3.6	.....	5c	0	W	.....	0.41	10.4	Fair	
Castroville, Texas	29.18	741 2	29.84	757.9	80	26.7	82	Calm	0	0	.....	5ck	0	.....	.....	0.05	1.3	Fair	
Charleston, South Carolina	29.99	761.7	30.06	763.5	85	29.4	76	SW	6	2.7	.....	2ck	1s	W	SW	0	0	Fair	
Cheyenne, Wyoming	24.14	613 1	30.08	764.0	54	12.2	80	W	4	1.8	.....	2ck	0	W	.....	Inap.	Inap.	Clear	
Chicago, Illinois	29.20	744.0	29.95	760.7	73	22 8	59	S	3	1.3	.....	5k	Sm'e	S	.....	0	0	Fair	
Cincinnati Ohio	29.32	744.7	29.95	760.7	71	21.7	75	N	3	1.3	.....	0	Sm'e	.....	N	0	0	Smoky	
Cleveland, Ohio	29.29	744.0	29.99	761.7	65	18.3	63	SE	8	3.6	.....	2ck	0	W	.....	0.13	3.3	Clear	
Coleman City, Texas	28.23	717.0	29.83	757.7	71	21.7	85	N	4	1.8	.....	2c	2s	Calm	Calm	0	0	Fair	
Columbus, Ohio	29.16	740.7	29.96	761.0	71	21.7	71	N	1	0.4	.....	2ck	0	Calm	.....	0	0	Fair	
Concho, Texas	28.13	714.5	29.74	755.4	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.48	748.8	29.93	760.2	75	23.9	95	NW	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Davenport, Iowa	29.40	746.7	30.02	762.5	65	18.3	84	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Denison, Texas	29.15	740.4	29.92	760.0	71	21.7	100	N	5	2.2	.....	.....	10s	.....	N	0.53	13.5	Cloudy	
Denver, Colorado	24.88	631.9	30.10	764.5	57	13.9	81	W	3	1.3	.....	0	5s	.....	W	0.02	0.5	Fair	
Des Moines, Iowa	29.16	740.7	30.00	762.0	71	21.7	71	Calm	.....	.....	0	.....	10s	.....	W	0	0	Cloudy	
Detroit, Michigan	29.33	745 0	29.98	761.5	64	17.8	73	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.53	699.2	29.78	756.4	59	15.0	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.32	744.7	30.00	762.0	64	17.8	83	NE	1	0.4	.....	1k	Fog	NW	Calm	0.03	0.8	Foggy	
Duluth, Minnesota	29.26	743.2	29.92	760.0	62	16.7	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.22	742.2	29.92	760.0	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.72	754.9	29 78	756.4	65	18.3	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	77	25.0	65	W	7	3.1	.....	2c	0	W	.....	0	0	Clear	
Erie, Pennsylvania	29.27	743.4	29.96	761.0	68	20.0	70	SW	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Escanaba, Michigan	29.35	745.5	29.98	761.5	60	15.6	71	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	85	29.4	51	E	.....	.....	1	5k	0	E	.....	0	0	Fair	
Fort Craig, New Mexico	25.63	651.0	29.69	754.1	66	18.9	90	SW	2	0.9	.....	.....	10n	.....	SW	0.14	3.6	Light rain	
Fort Davis, Texas	25.30	642.6	30.26	768.6	69	20.6	79	E	4	1.8	.....	.....	10ks	.....	E	0	0	Cloudy	
Fort Gibson, Indian Ter	29.45	748.0	29.97	761.2	70	21.1	80	E	6	2.7	.....	5ck	2ks	NE	E	0.20	5.1	Fair	
Fort Griffin, Texas	28.75	730.2	29.98	761.5	68	20.0	84	N	3	1.3	.....	2ck	2s	Calm	Calm	0.93	23.6	Fair	
Fort McKavett, Texas	27.81	706.4	29.65	753.1	74	23.3	81	NE	2	0.9	.....	.....	8ks	.....	NE	0.23	5.8	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.82	732.0	29.89	759.2	69	20.6	79	N	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Fredericksburg, Texas	28.27	718.0	29.75	755.6	77	25.0	82	NE	1	0.4	.....	.....	10ks	.....	Calm	0.25	6.3	Cloudy	
Galveston, Texas	29.93	760.2	29.97	761.2	80	26.7	87	S	1	0.4	.....	0	5ks	.....	Calm	1.31	33.3	Fair	
Graham, Texas	28.91	734.3	29.94	760.5	69	20.6	80	N	2	0.9	.....	0	5ks	.....	W	0.35	8.9	Fair	
Grand Haven, Michigan	29.36	745.7	30.00	762.0	59	15.0	82	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.22	742.2	29.97	761.2	69	20.6	75	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Indianola, Texas	29.94	760.5	29.96	761.0	83	28.3	83	SW	5	2.2	.....	5k	0	SW	.....	0.91	23.1	Fair	
Jacksboro, Texas	28.86	733.0	29.96	761.0	68	20.0	90	N	6	2.7	.....	.....	10s	.....	N	0.74	18.8	Cloudy	
Jacksonville, Florida	30.06	762.0	30.02	762.5	84	28.9	79	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Keokuk, Iowa	29.37	746.0	29.96	761.0	71	21.7	71	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	29.97	761.2	30.00	762.0	85	29.4	76	E	2	0.9	.....	6c;k	2ks	Calm;E	Calm	0.12	3.0	Fair	
Kittyhawk, North Carolina	29.96	761.0	29.98	761.5	74	23.3	100	N	9	4.0	.....	.....	10n	.....	N	0.58	14.7	Light rain	
Knoxville, Tennessee	29.03	737.3	29.99	761 7	71	21.7	95	Calm	0	0	.....	.....	10n	.....	Calm	2.14	54.4	Light rain	
La Crosse, Wisconsin	29.27	743.4	29.98	761.5	62	16.7	83	SW	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	67	19.4	89	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Laredo, Texas	29.51	749.5	29.82	757.4	82	27.8	75	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.91	632.7	30.18	766.6	55	12.8	87	SW	8	3.6	.....	.....	10s	.....	Calm	0.11	2.8	Cloudy	
Leavenworth, Kansas	29.19	741.4	30.01	762.2	63	17.2	94	Calm	0	0	.....	0	Fog	.....	S	0	0	Fair	
Los Angeles, California	29.49	749.0	29.81	757.2	64	17.8	89	W	1	0.4	.....	2c	Fog	SE	Calm	0	0	Fair	
Louisville, Kentucky	29.43	747.5	29.96	761.0	71	21.7	71	N	6	2.7	.....	0	Sm'e	.....	Calm	0	0	Clear	
Lynchburg, Virginia	29.31	744.5	29.96	761 0	76	24.4	76	Calm	0	0	.....	.....	10ks	.....	Calm	0.02	0.5	Cloudy	
Marquette, Michigan	29.26	743.2	29.93	760.2	66	18.9	54	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.37	720.6	30.06	763.5	73	22.8	90	N	1	0.4	.....	8ck	0	SE	.....	1.90	48.3	Fair	
Memphis, Tennessee	29.67	753.6	29.98	761.5	72	22.2	90	NE	4	1.8	.....	.....	10n	.....	N	0.22	5.6	Light rain	
Milwaukee, Wisconsin	29.27	743.4	29.98	761.5	65	18.3	78	W	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.97	761.2	30.01	762.2	81	27.2	78	S	3	1.3	.....	1c	2s	Calm	Calm	0	0	Fair	
Montgomery, Alabama	29.77	756.1	29.99	761.7	81	27.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.98	736.1	30.00	762.0	63	17.2	89	Calm	0	0	.....	1c	Fog	W	Calm	0	0	Foggy	
Mt. Washington, N. H.	23.74	603.0	30.10	764.5	40	4.4	100	NW	27	12.1	.....	.....	Fog	.....	.....	0.05	1.3	Foggy	
Nashville, Tennessee	29.47	748.5	29.99	761.7	74	23.3	86	NW	2	0.9	.....	.....	10s	.....	SW	2.09	53.1	Cloudy	
New Haven, Connecticut	29.82	757.4	29.94	760.5	72	22.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	29.88	758.9	29.93	760.2	74	23.3	63	Calm	0	0	.....	0	1s	.....	W	0	0	Clear	
New Orleans, Louisiana	29.93	760.2	29.99	761.7	82	27.8	79	Calm	0	0	.....	2k	Haze	Calm	Calm	0.25	6.3	Fair	
Newport, Rhode Island	29.86	758.4	29.91	759.7	70	21.1	66	NW	4	1.8	.....	0	0	.....	.....	0.09	2.3	Clear	
New York, New York	29.80	756.9	29.97	761.2	71	21.7	62	NW	6	2.7	.....	5cs	Haze	SW	Calm	0	0	Fair	
Norfolk, Virginia	29.92	760.0	29.98	761.5	75	23.9	95	SW	5	2.2	.....	.....	10s	.....	Calm	1.46	37.1	Cloudy	
North Platte, Nebraska	27.17	690.1	29.67	753.6	62	16.7	77	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter	30.06	763.5	30.10	764.5	54	12.2	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Omaha, Nebraska	28.91	734.3	29.95	760.7	68	20.0	74	Calm	0	6	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.64	752 8	29.96	761.0	66	18.3	84	W	3	1.3	.....	8c	0	NW	.....	0	0	Fair	
Pembina, Dakota	29.10	739.1	29.91	759.7	51	10.6	100	Calm	0	0	.....	2c	0	Calm	.....	0.07	1.8	Clear	
Philadelphia, Pennsylvania	29.93	760.2	29.98	761.5	71	21.7	58	NW	12	5.4	.....	5c;ck	Haze	W	Calm	0.03	0.8	Fair	
Phœnix, Arizona	28.70	729.0	.....	.....	85	29.4	44	SE	.....	.....	1	5k	0	SE	.....	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.09	459.5	30.39	769.6	38	3.3	63	NW	12	5.4	.....	0	0	.....	.....	0.45	11.4	Clear	
Pioche, Nevada	24.16	613.6	29.93	760.2	73	22.8	17	S	4	1.8	.....	1k	0	Calm	.....	0	0	Fair	
Pittsburg, Pennsylvania	29.19	741.4	29.98	761.5	60	15.6	94	N	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Port Huron, Michigan	29.33	745.0	29.97	761.2	63	17.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	29.79	756.7	29.84	757.9	68	20.0	65	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Portland, Oregon	30.05	763.3	30.16	766.1	54	12.2	87	Calm	0	0	.....	0	5ks	.....	NW	0	0	Fair	
Prescott, Arizona	24.84	630.9	30.20	767.1	64	17.8	73	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.03	762.7	83	28.3	83	NE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.41	747.0	29.75	755.6	78	25.6	36	N	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rochester, New York	29.36	745.7	29.95	760.7	64	17.8	73	W	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Roseburg, Oregon	29.53	750.0	30.09	764.3	54	12.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.67	753.6	29.75	755.6	70	21.1	57	S	4	1.8	.....	2ck	Sm'e	S	Calm	0	0	Fair	
St. Louis, Missouri	29.46	748.3	30.01	762.2	71	21.7	75	NW	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
St. Marks, Florida	30.01	762.2	30.02	762.5	77	25.0	95	Calm	0	0	.....	8k	2s	SW	SW	1.12	28.4	Cloudy	
St. Paul, Minnesota	29.12	739.6	29.92	760.0	62	16.7	77	S	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	
Salt Lake City, Utah	25.65	651.5	29.98	761.5	64	17.8	34	SE	4	1.8	.....	2k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.28	743.7	29.84	757.9	78	25.6	95	Calm	0	0	.....	5c	0	Calm	.....	0.72	18.3	Fair	
San Diego, California	29.75	755.6	29.82	757.4	65	18.3	89	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Sandusky, Ohio	29.36	745.7	30.01	762.2	67	19.4	74	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.93	760.2	29.96	761.0	71	21.7	66	N	10	4.5	.....	5c	0	NW	.....	0.01	0.3	Fair	
San Francisco, California	29.74	755.4	29.80	756.9	53	11.7	93	SW	12	5.4	.....	0	Fog	.....	SW	0	0	Fair	
Santa Fé, New Mexico	23.48	596.4	30.02	762.5	55	12.8	68	N	1	0.4	.....	2k	2s	Calm	Calm	0.10	2.5	Fair	
Savannah, Georgia	29.95	760.7	30.04	763.0	85	29.5	76	SW	4	1.8	.....	2ck	Haze	W	.....	0	0	Fair	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	77	25.0	91	Calm	0	0	.....	5cs	0	S	.....	0.12	3.0	Fair	
Silver City, New Mexico	24.39	619.5	.....	.....	64	17.8	88	S	2	0.9	.....	.....	10s	.....	Calm	0.36	9.1	Cloudy	
Smithville, North Carolina	30.00	762.0	30.03	762.7	82	27.8	87	W	20	8.9	.....	2cs	5ks	SW	W	0	0	Cloudy	
Springfield, Massachusetts	29.75	755.6	29.87	758.7	70	21.1	66	S	1	0.4	.....	0	0	.....	.....	0.11	2.8	Clear	
Stockton, Texas	27.02	686.3	30.02	762.5	68	20.0	50	Calm	0	0	.....	5k	0	E	.....	1.90	48.3	Fair	
Thatcher's Island, Mass	29.84	757.9	29.89	759.2	67	19.4	64	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.32	744.7	29.97	761.2	65	18.3	68	W	3	1.3	.....	0	Haze	.....	Calm	0	0	Hazy	
Tucson, Arizona	27.31	693.7	29.86	758.4	81	27.2	67	SE	4	1.8	.....	5k	0	SE	.....	0.18	4.6	Fair	
Tybee Island, Georgia	30.01	762.2	30.04	763.0	86	30.0	68	SW	3	1.3	.....	2c	2s	Calm	SW	0	0	Fair	
Umatilla, Oregon	29.62	752.3	.....	.....	62	16.7	72	Calm	0	0	.....	Sm'e	Sm'e	Calm	Calm	0	0	Smoky	
Uvalde, Texas	29.04	737.6	29.84	757.9	79	26.1	78	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Hazy	
Vicksburg, Mississippi	29.74	755.4	29.99	761.7	78	25.6	91	SW	3	1.3	.....	.....	10s	.....	Calm	0.40	10.2	Cloudy	
Virginia City, Montana	24.40	619.8	29.88	758.9	58	14.4	53	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.42	747.3	29.77	756.1	71	21.7	66	Calm	0	0	.....	.....	8s	.....	Calm	0	0	Cloudy	
Washington, D. C.	29.89	759.2	30.00	762.0	71	21.7	75	NW	6	2.7	.....	.....	10s	.....	W	0.03	0.8	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	73	22.8	59	Calm	.....	.....	0	2cs	0	Calm	.....	Inap.	Inap.	Fair	
Wilmington, N. Carolina	29.92	760.0	30.00	762.0	78	25.6	86	S	1	0.4	.....	2k	5ks	SW	SW	0.67	17.0	Fair	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	59	15.0	28	SE	3	1.3	.....	2k	Haze	W	Calm	0	0	Fair	
Wood's Holl, Mass	29.86	758.4	29.91	759.7	71	21.7	71	NW	8	3.6	.....	2c;hz	0	NW; Calm	.....	0	0	Clear	
Yankton, Dakota	28.72	729.5	29.96	761.0	64	17.8	86	SW	4	1.8	.....	8c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.58	751.3	29.73	755.1	83	28.3	56	SW	2	0.9	.....	2c	5ks	E	Calm	0	0	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.99	761.7	30.04	763.0	55.5	13.1	87	E	9	4.0	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.98	761.5	30.00	762.0	84	28.9	70	E	2.4	1.1	.....	2c	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	81	27.2	87	E	5	2.2	.....	2c	5ks	SE	.....	3.5	89.	Clearing	G. O. Gellich.
Kingston, Jamaica, W. I.	30.07	763.8	30.08	764.0	80	26.7	91	Calm	0	0	.....	8c	5n	Calm	NE	0	0	.....	James Gall.
Navassa, W. I.	29.81	757.2	29.89	759.2	84	28.9	.....	N	19.2	8.6	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	80	26.7	87	E	.....	.....	3	4c	5k	E	.....	0.480	12.19	Fair	C. J. Hering.
Batavia, Dutch Guiana, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. H. Groot.
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	67.0	19.4	89	Calm	0	0	.....	4cs	3ks	.....	.....	0.26	6.6	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Bracketville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m. Fort McKavett, 2,059 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m. Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,870 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known. It is not certain that the weather for Batavia refers to the moment of observation.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.17	766.3	82	27.8	82	27.8	83	SW	10	4.5	.....	.....	8	.....	SW	.....	.....	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	29.87‡	758.7‡	.....	.....	66	18.9	68	W	2	0.9	.....	.....	2	.....	.....	0.2	5.	.....	.....	Clear.....	
Naval Hospital, Yokohama,Japan	30.04*	763.0*	73.5	23.1	72.2	22.3	95	Calm	.....	.....	0	.....	10ks	.....	NE	0.06	1.5	.....	.....	Cloudy.....	
Adams. Apia, Samoan Islands	29.99	761.7	79	26.1	79	26.1	95	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, N. 42° 33′, W. 9° 33′	29.96‡	761.0‡	.....	.....	69	20.6	95	SSW	.....	.....	3	.....	0?	.....	.....	.....	.....	Mod'ate	S	Drizzling.....	
Ashuelot. Kobe, Japan	30.06	763.5	80	26.7	79	26.1	95	ENE	.....	.....	4	.....	8	.....	SE	.....	.....	Mod'ate	ENE	Clearing.....	
Alaska. S. 27° 07′, W. 43° 59′	30.28	769.1	70	21.1	66	18.9	89	SE	.....	.....	6	.....	10	.....	SE	0.27	6.9	Mod'ate	SE	Drizzling.....	
Canonicus, New Orleans, La	30.04	763.0	56	13.3	79	26.1	91	SE	.....	.....	1	.....	4	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y	29.91‡	759.7‡	.....	.....	71	21.7	62	NW	16	7.2	.....	.....	5	.....	WNW	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	29.69‡	754.1‡	.....	.....	67	19.4	89	S	.....	.....	3	.....	9	.....	S	.....	.....	.....	.....	Cloudy.....	
Despatch. Volo, Turkey	29.91‡	759.7‡	.....	.....	80	26.7	62	SSE	.....	.....	3	.....	5	.....	SSE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va	30.08	764.0	77	25.0	74	23.3	100	SW	4	1.8	.....	.....	10	.....	W	0.45	11.4	.....	.....	Cloudy.....	
Gettysburg Villefranche, France	29.84‡	757.9‡	.....	.....	80	26.7	100	E	.....	.....	1	.....	2	.....	Calm	0	0	Light	S	Clear.	
Hartford, Rio de Janeiro, Brazil	30.19	766.8	.....	.....	77	25.0	69	N	6.0	2.7	.....	.....	5	.....	N	0	0	.....	.....	Fair.....	
Marion, Villefranche, France	29.94	760.5	79	26.1	80	26.7	70	SE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Lake Superior	29.40	746.7	70	21.1	69	20.6	80	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	30.06‡	763.5‡	.....	.....	74	23.3	90	E	.....	.....	0–1	.....	10	.....	NNE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C	30.24	768.1†	.....	.....	83	28.3	71	WSW	7	3.1	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru	30.16†	766.1†	.....	.....	61	16.1	82	S	.....	.....	4	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C	30.02‡	762.5‡	.....	.....	72	22.2	95	NNE	.....	.....	1	.....	8	.....	NE	0	0	.....	.....	Fair	
Palos, Tientsin, China	29.97	761.2	80	26.7	79	26.1	91	SE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Pensacola, Mare Island, California	29.87	758.7	60	15.6	58	14.4	58	SSW	8	3.6	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear.	
Plymouth. New York, N. Y	29.94‡	760.5‡	.....	.....	70	21.1	90	NW	.....	.....	1–2	.....	2	.....	N	.....	.....	.....	.....	Fair	
Ranger. Hong-Kong, China	30.03	762.7	79	26.1	77	25.0	86	SW	.....	.....	2–4	.....	10	.....	NE	.....	.....	.....	.....	Rainy.....	
Rio Bravo, Brownsville, Texas	29.91	759.7	79	26.1	79	26.1	91	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md	29.92‡?	760.0‡?	.....	.....	74	23.3	72	N	.....	.....	1	.....	8	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.95	760.7	73	22.8	72	22.2	71	NNW	1	0.4	.....	.....	2	.....	WSW	0.01	0.3	.....	.....	Fair	
Supply, Havre, France	29.77	756.1	69	20.6	68	20.0	84	SW	.....	.....	3–4	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass	29.86‡	758.4‡	.....	.....	67	19.4	??	NW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Cherbourg, France	29.63‡	752.6‡	.....	.....	70	21.1	75	WSW	.....	.....	3–4	.....	7	.....	S;W	0	0	.....	.....	Fair.....	
Tuscarora. Acapulco, Mexico	29.65	753.1	80	26.7	80	26.7	82	ENE	.....	.....	2–4	.....	8	.....	NE	2.5	63.	.....	.....	Cloudy.....	
Vandalia, Naples, Italy	29.88‡	758.9‡	.....	.....	78	25.6	78	S	.....	.....	2	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass	29.90‡	759.4‡	.....	.....	70	21.1	66	WNW	.....	.....	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Wyoming, N. 40° 14′, W. 70° 56′	29.92†	760.0†	.....	.....	73	22.8	90	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	Smooth	.....	D. clouds.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 26′, W. 178° 52′		30.21*	767.3*	68	20.0	100	WSW			3		6		W	0	Light	WSW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 41° 00′, W. 124° 40′		29.94†	760.5†				NW			5		Haze				Much	NW	Hazy	Capt. Seabury.
S. S. City of Peking, N. 31° 47′, E. 132° 21′		29.86†	758.4†	81	27.2	96	NE	14	6.3			8		ENE	Mod'ate	Small	ENE	Showery	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 43° 14′, W. 124° 45′		30.11†	764.8†	55	12.8	93	N			6		10				Heavy	NW	Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.77*	756.1*	79	26.1		NNW			2				NW	0			D clouds	Capt. B. Gleadell.
S. S. Germanic, N. 49° 44′, W. 33° 25′		29.47†	748.5†	63	17.2	??	Var.			5		10			Blank	Heavy	W	Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, N. 41° 34′, E. 179° 05′		29.94*	760.5*	68	20.0	100	W			5		Fog		W		Smooth	W	Showery	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lo'wr. 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, St. George's Channel		29.50*	749.3*	65	18.3	89	SSW			5		9		NE	Heavy	Smooth		Thick	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		29.93	760.2	72	22.2	85	NNW			2		8		WSW	Light	None		Clear?	Captain Morrison.
S. S. Pennsylvania, N. 42° 35′, W. 48° 54′		29.81†	757.2†	73	22.8	100	W			2		4		W	Blank	Light	SW	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

																			Capt. Randle.
S. S. Nederland																			
S. S. Switzerland, N. 41° 17′ W. 54° 03′		29.88*	758.9*				WNW	6	2.7			3		NW		Mod'ate	WSW	Fine	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, N. 42° 17′ W. 69° 50′		29.79	756.7	67	19.4	74	WNW	13	5.8			Sm'e			0	Rough	SW	Smoky	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		29.89*	759.2*	49.8	9.9	55	ENE			4	0	0						Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 13, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.02	762.5	82.9	28.3	60	NE	.....	.....	3	.....	1	.....	.....	0	0	Very fair.....	Kesxuche.
Algiers	.....	.....	29.94	760.5	85.6	29.8	67	W	.....	.....	2	.....	1	.....	.....	0	0	Very fair.....	Tourihere.
La Calle	.....	.....	29.98	761.4	80.8	27.1	84	NE	.....	.....	5	.....	1	.....	.....	0	0	Very fair.....	Foufrede.
Tunis	.....	.....	30.01	762.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.08	764.0	89.6	32 0	.....	E	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30.07	763.8	93.6	34.2	31	N	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	29.98	761.5	96.3	35.7	.....	WSW	.....	.....	2	.....	2	.....	.....	0	0	Fair	Watrin.
Geriville	.....	.....	30.11	764.8	92.1	33.4	44	ENE	.....	.....	6	.....	4	.....	.....	0	0	Cloudy.....	Brugnlaux.
Laghouat	.....	.....	30.06	763.5	101.5	38.6	18	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	30.00	761.9	105.4	40.8	23	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 830? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.42ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.36	745.8	29.88	759.0	81.0	27.2	50	S	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozu
Cracow	29.07	738.4	29.79	756.6	78.8	26.0	59	SW	.....	.....	1	.....	6	.....	.....	0.031	0.81	Lightning...	Prof. Dr. Karlinski.
Eperies	28.98	736.2	29.82	757.4	76.3	24.6	69	S	.....	.....	1	.....	8cks	.....	.....	0.005	0.13	....	Julius Mikolik.
Gratz	28.68	728.4	29.87	758.6	77.7	25.4	62	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.51	724.1	29.87	758.7	73.4	23.0	64	WNW	.....	.....	1	.....	6	.....	.....	0.045	1.15	Raining	Prof. Reissenberg
Kremsmünster	28.51	724.2	29.78	756.5	75.9	24.4	57	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.85	732.7	29.78	756.5	73.8	23.2	78	S	.....	.....	1	.....	5	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.83	757.6	29.93	760.3	80.6	27.0	71	S	.....	.....	1	.....	1k	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.47	748.4	29.91	759.6	77.4	25.2	53	SE	.....	.....	4	.....	8	.....	.....	0.335	8.5	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.85	758.2	29.95	760.8	79.5	26.4	57	NW	.....	.....	1	.....	1	.....	.....	0	0	Fair.....	P. Busin.
Vienna	29.20	741.6	29.88	758.9	77.7	25.4	52	WSW	.....	.....	2	.....	5	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.42	721.8	29.88	758.9	66.4	19.1	58	SW	.....	.....	4	.....	9	.....	.....	0.421	10.7	....	Prof. M. Passau.
Brussels	29.60	751.8	29.79	756.7	65.8	18.8	64	WSW	.....	.....	5	.....	10	.....	SW	0.014	0.35	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. E. de Cae.
Maeseyck	29.71	754.7	29.84	757.9	65.8	18.8	74	SW	.....	.....	4	.....	10	.....	.....	0.012	0.3	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.17	740.9	29.27	743.4	60.6	15.9	.....	WNW	21	9.4	.....	.....	7	.....	.....	0.070	1.78	Showery.....	W. Boswell.
Ardrossan	29.37	746.0	29.38	746.2	61	16.1	.....	SSW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	29.46	748.3	61.9	16.6	.....	SW	10	4.5	.....	.....	10	.....	.....	.....	.....	Raining.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.53	750.0	62.8	17.1	.....	SW	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.25	742.9	29.44	747.8	65.3	18.5	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.13	739.9	29.53	750.0	64.0	17.8	.....	W	.....	.....	2	.....	9	.....	.....	0.01	0.3	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	85	29.4	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds..	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.61	752.8	65.0	18.3	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery	H.Todd. [H.C.
Cardington	.....	.....	29.67	753.6	68.0	20.0	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.56	750.8	29.69	754.1	67.7	19.8	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.20	716.3	29.56	750.8	59.0	15.0	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Rain and fog	Alexander Watt. [Col. Mar-
Donaghadee	29.40	746.7	29.43	747.5	66	18.9	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds.....	tin, R. E. J. Mac Gowan.
Dover	29.72	754.9	29.74	755.4	64	17.8	.....	WSW	.....	.....	4	.....	6	.....	.....	.....	.....	¾ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.52	749.8	63.8	17.7	.....	SW	4.2	1.9	.....	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Falmouth, Observatory	29.46	748.3	29.69	754.1	63.6	17.6	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.89	708.4	30.16	766.1	60.6	15.6	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.81	757.2	30.04	763.0	83	28.3	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.38	746.2	63	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.93	760.2	29.98	761.5	84.4	29.1	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.18	741.2	29.38	746.2	64.0	17.8	.....	WSW	.....	.....	6	.....	7	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.62	752.3	29.63	752.6	68	20.0	.....	SW	.....	.....	3	.....	5	.....	.....	Blank	Blank	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.53	750.0	29.70	754.4	63.0	17.6	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Showery.....	The Staff, for G. B. Airy.
Guernsey	29.55	750.6	29.77	756.1	65	18.3	.....	SSW	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.74	755.4	66	18.9	.....	W	.....	.....	2	.....	10n	.....	.....	0.03	0.8	Raining	M. P. Moyle.
Holyhead	29.37?	746.6?	29.52	749.8	61	16.1	.....	SSW	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling.....	John Tilston.
Jersey	29.54	750.3	29.82	757.4	66.2	19.0	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	J. Fisher.
Kew, Observatory	.....	.....	29.70	754.4	64.5	18.1	.....	SW	20	8.9	.....	.....	9	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.48	748.8	29.51	749.5	65	18.3	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.60	751.8	63.2	17.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.86	758.4	29.93	760.2	89	31.7	.....	NW	.....	.....	6	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.20	741.7	29.29	744.0	58	14.4	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Covered.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.96	761.0	85.0	29.4	.....	SE	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.41	747.0	29.59	751.6	64.6	18.1	.....	SW	.....	.....	4	.....	10k;d	.....	WSW	0.031	0.79	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.09	738.9	29.60	751.8	61.8	16.6	.....	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.69	754.1	67	19.4	.....	S	.....	.....	5	.....	10	.....	.....	.....	.....	Gloomy	H.E. Bellamy.
Plymouth	29.62	752.3	29.69	754.1	63.0	17.2	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.43	747.5	29.47	748.5	64	17.8	.....	WSW	.....	.....	5	.....	10	.....	.....	.....	.....	Showery.....	W. Kennedy.
Saint Ann's Head	29.43	747.5	29.59	751.6	64	17.8	.....	SSW	.....	.....	4	.....	4	.....	.....	.....	.....	Raining	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.28	743.7	59.4	15.2	.....	NW	13	5.8	.....	.....	4	.....	.....	.....	.....	D. clouds..	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.85	758.2	82.8	28.2	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	29.30	744.2	29.58	751.3	65.4	18.6	.....	SW	.....	.....	4	.....	7	.....	.....	0.60	15.2	Overcast.....	W. F. Cooper.
Silloth Rectory	29.36	745.7	29.39	746.5	65.2	18.4	74	SW	.....	.....	3	.....	5	.....	.....	0.200	5.08	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.14	740.1	29.59	749.3	60.2	15.7	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	29.24	742.7	29.28	743.7	63	17.2	.....	NNW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S.
Thurso	.....	.....	29.26	743.2	59	15.0	.....	NW	.....	.....	2	.....	7	.....	.....	Blank	Blank	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.70	754.4	65	18.3	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.43	747.5	62.5	16.9	.....	SSW	32	14.3	.....	.....	10	.....	.....	.....	.....	Drizzling.....	The Staff.
Sub-Series.																			
Calf of Man, (Isle of Man)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Henry Mercer.
Cape Good Hope, Obs'y	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Staff, for E. J. Stone.
Hobart Town, (Tasmania)	.....	.....	29.62	752.3	45.0	7.2	86	NW	.....	.....	2	.....	10kn	.....	.....	0.30	7.6	Hazy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.87	758.7	30.06	763.5	73.6	23.1	69	ESE	12.0	5.4	.....	5	2	.....	SE	0.02	0.5	Cloudy; fine	C. Meldrum.
Melbourne, Observatory	29.92	759.9	30.01	762.2	46.2	7.9	81	NNW	6	2.7	.....	.....	0	.....	.....	0.02	0.5	Fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 54° 50', W. 51° 40'	.....	.....	29.86	758.4	48	8.9	.....	SSW	.....	.....	3	.....	7	.....	.....	4	E	D. clouds.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Barque Sorata	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Schooner Traveller, N. 40° 45', W. 70° 10'	.....	.....	29.99	761.7	65	18.3	.....	SW	.....	.....	3	.....	5	.....	.....	2	.....	D. clouds.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.26	667.0			66.6	19.2	93	SE			2	c	7s			Inap.	Inap		Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.53	750.1	29.58	751.3	71.1	21.7	60	WSW			2		3						
Fanöe	29.53	750.0	29.55	750.5	65.8	18.8	73	WSW			6		7						
Godthaab, (Greenland)	29.68	753.9	29.72	755.0	39.7	4.3	97	SW			4		10					Raining	
Stykkisholm, (Iceland)	29.65	753.2	29.70	754.3	52.2	11.2	88	Calm			0		8						
Thorshavn, (Farôe)	29.44	747.7	29.47	748.6	50.0	10.0	88	NE			6		10					Raining	
Vestervig	29.32	744.6	29.48	748.9	66 2	19.0	72	SW			4		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.2	29.93	760.2	68.7	20.4	71	SW			1		8			0.201	5.10	Very cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.81	757.2	29.89	759.2	83.8	28.8	50	SSW			1				W	0	0	Light clouds	M. Girand, Director.
Bar-sur-Seine	29.39	746.5	29.93	760.1	70.2	21.2	51	SW			1		10			0	0	Covered	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.59	751.5	29.86	758.4	71.6	22.0	58	SW			2		10		WSW	0.256	6.50	Covered	Frere Eugene Marie, Director.
Besançon	29.08	738.7	29.35	760.6	75.7	24.3	40	S			2		10		W	0	0	Covered	Normal School.
Bourg-en-Bresse, N. School	29.12	739.6	30.05	763.3	79.9	26 6	46	S			3		2ck		S	0	0	Slightly cl'dy	M. Marlot, Director.
Bourges, Normal School	29.37	746.0	29.90	759.5	72.5	22.5	80	SW			1		2k		SW	0.04	1.	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.51	749.6	29.76	755.8	68.0	20.0	77	SW			3		10		SW	0	0		The Staff.
Carcassonne, Normal School	29.54	750.2	29.92	760.0	86.0	30	35	E			2		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.29	743.9	29.84	758.0	65.1	18.4	100	W			4		10		E	0.94	24.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.5	29.89	759.3	72.0	22.2	64	SW			1		10	NE	NE	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.60	726.4	29.89	759.1	77.9	25.5	46	W			1				W	0	0		Alluard, Director.
Commercy, Normal School	29.09	738.9	29.94	760.5	68.0	20	55	W			3		5kn		W	0	0	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*	28.91	734.4	30.06	763.4	88.3	31.3	23	W			2		5		W	0	0	½ covered	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.73	755.2	29.94	760.5	68.0	20.0	78	SW			4		10		SW	0.126	3.2	Covered	Mouillot, Director.
Le Mans, Normal School	29.57	751.1	29.87	758.7	67.1	19.5	82	WSW			3		8		WSW	0.20	5.	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.06	738.2	29.93	760.3	77.5	25.3	53	SW			6		5		E	0.035	0.90	Cloudy	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					75.2	24	75	SW			1		2		SW	0.047	1.2	Partly cl'dy	M. Galzin, Director.
Mirecourt, Normal School	28.90	734.1	29.91	759.7	69.8	21	59	WSW			1		8kn		SW	0	0	Very cloudy	M. Barbier, Director.
Nismes, Normal School	29.78	756.5	29.97	761.3	92.1	33.4	40	S			2		2		S	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.97	735.8	29.98	761.4	83.1	28.4	37	N			1	c		S	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.17	639.2			57.2	14.0	86	SW			2					Blank	Blank	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.3	29.97	761.1	75.2	24.0	70	SW			4		2		SW	0.04	1.	¼ covered	M. Giguel, Director.
Rouen, Normal School	29.76	755.9	29.85	758.1	67 8	19.9	62	SW			2		10		SW	0.768	19.5	Covered	F. Lucard, Director.
Saint Malo (Port)			29.83	757.6	64.4	18.0	76	SSW			3		8		SSW	0.263	6.68	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	28.96	735.6	30.00	762.1	71.6	22	66	WSW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche, Normal School	29.43?	747.6?	30.11?	764.8?	82.6	28.1	86	SE			1		2		W	0	0	Slightly cl'dy	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	81.3	27.4										0.20	5.		L'Abbé Marchés.
Lyons			30.00	761.9	81.0	27.2	44						8			0	0		L. Jays.
Marseilles, Observatory			29.96	761.0	81.5	27.5	47	W			0-1		5			0	0		The Staff.
Mont-Louis	24.97	634.1	30.28	769.1	72.1	22.3	34	SSW	13.0	5.83			0			0	0		M. Cave.
Nice			29.99	761.8	78.1	25.6	74	E			1		2			0	0	Slightly cov.	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.60	751.8	29.87	758.8	69.1	20.6	59	SW			4		10		SW	0 008	0.2		Marié Davy, Director
Perpignan			29.98	761.4	80.8	27.1	48	SE	14.9	6.66			3		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.66	575.6			58.3	14.6		SW			3		3			0	0	Fair	Gen'l de Nansouty
Saint Maur, (near Paris)	29.72	754.8	29.88	759.0	69.6	20.9	55	SW			2		10		WSW	0.008	0.2	Covered	E. Renou.
Toulouse, Observatory	29.30	744.2	30.07	763.6	79.0	26.1	43	NE			1		1			0	0		The Staff.
Tours	29.55?	750.5?	29.74?	755.4?	73.6	23.1	83	SW			4		8		W	0.244	6.2		C. Marquet.
Versailles, (near Paris)			29.84	758.	70.2	21.2	46	SW			3		10			0.020	0.50	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.86	758.5	29.89	759.1	78.4	25.8	95	E	7.4	3.3			0			0	0	Clear	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall is measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.94	735.0	29.77	756.2	73.0	22.8	69	NW	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.58	751.4	29.75	755.6	75.7	24.3	54	SW	.....	.....	4	.....	8	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.31	744.4	29.84	757.8	77.0	25.0	43	SW	.....	.....	2	.....	2	.....	.....	0.022	0.56	.....	Royal University Obs'y
Carlsruhe	29.48	748.7	29.89	759.1	70.5	21.4	68	SW	.....	.....	2	.....	10	.....	.....	0.138	3.5	Raining	Albert Senz.
Cassel	29.22	742.2	29.82	757.5	70.9	21.6	55	W	.....	.....	2	.....	5	WSW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.62	752.3	29.78	756.4	69.8	21.0	55	SW	.....	.....	6	.....	9	.....	.....	0.04	1.	.....	Director Lose.
Emden	29.59	751.6	29.63	752.6	65.5	18.6	72	SW	.....	.....	1	.....	8	.....	.....	0.354	9.0	.....	Prof. Prestel.
Frankfort on the Main	29.48	748.9	29.83	757.7	77.5	25.3	.....	SW	.....	.....	3	.....	8	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.52	724.4	29.89	759.3	73.8	23.2	61	WSW	.....	.....	4	.....	7	W	.....	0	0	.....	M. Wilhelm.
Hamburg	29.63	752.6	29.70	754.3	69.1	20.6	67	WSW	.....	.....	5	.....	10	.....	.....	0.021	0.6	Showery	Captain F. Hegemann.
Kiel	29.63	752.6	29.65	753.0	66.0	18.9	70	W	.....	.....	3	.....	10	.....	.....	0.256	6.50	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.65	753.1	29.73	755.1	74.8	23.8	55	SW	.....	.....	4	.....	4	.....	.....	0.315	8.0	.....	Prof. E. Luther.
Köslin	.....	.....	29.67	753.5	73.2	22.9	.....	SW	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.39	746.6	29.80	756.8	77.2	25.1	63	SW	.....	.....	4	.....	9	SW	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.71	754.6	29.76	755.8	71.8	22.1	61	SSW	.....	.....	1	.....	1ks	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.72	754.9	29.74	755.3	78.1	25.6	45	SW	.....	.....	3	.....	7	.....	.....	0.083	2.1	.....	A. Lothes.
Posen	29.54	750.2	29.81	757.1	77.7	25.4	49	SW	.....	.....	1	.....	8	.....	.....	0.012	0.3	.....	Dr. Magener.
Strassburg (in Alsace)	29.41	746.9	29.94	760.3	73.4	23.0	60	W	.....	.....	3	.....	10	WSW	.....	0.024	0.61	.....	Astronomical Observatory.
Stattgart	28.98	736.2	29.89	759.3	68.4	20.2	82	SW	.....	.....	.....	.....	8	W	.....	0.094	2.4	Rainy	Prof. Schoder.
Treves, (Trier)	29.23	742.4	29.74	755.5	71.4	21.9	60	W	.....	.....	5	.....	7	.....	.....	0.142	3.61	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.42	721.8	29.86	758.3	72.9	22.7	52	WNW	4.9	2.2	.....	.....	7	.....	W	0	0	.....	Dr. Von Bebber.
Wustrow, Naval School	29.65	753.1	29.69	754.1	68.7	20.4	72	WSW	.....	.....	4	.....	7	.....	.....	0.150	3.8	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.54	750.2	29.91	759.7	86.5	30.3	.....	SW	.....	.....	2.5	.....	lc	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deesa	29.24	742.7	29.72	754.9	77.9	25.5	95	Calm	.....	.....	.....	.....	10	.....	W	2.10	53.3	Raining	.....
Bombay	29.73	755.0	29.76	755.6	80.5	26.9	94	W	9	4.0	.....	.....	10	.....	SW	0.35	8.9	Overcast	....
Poona	27.77	705.4	29.79	756.7	73.0	22.8	91	WNW	.....	.....	.....	.....	10	.....	WNW	0.30	7.6	Drizzling	.....
Lahore	28.87	733.4	29.51	749.4	84.0	28.9	83	NE	2.1	0.9	.....	.....	6	.....	.....	2.60	66.0	.....	.....
Belgaum	27.27	692.7	29.82	757.5	72.0	22.2	92	W	11	4.9	.....	.....	10	.....	W	0.04	1.0	Threatening	.....
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.71	729.1	29.58	751.4	89.2	31.8	59	Calm	2.5	1.1	.....	.....	5	.....	.....	0.09	2.3	.....	.....
Agra	29.06	738.0	29.61	752.1	85.7	29.8	76	E	6	2.7	.....	.....	.....	.....	E	0	0	.....	.....
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.61	726.7	29.65	753.1	78.3	25.7	86	W	7.6	3.4	.....	.....	10	.....	SE	0.69	17.5	Gloomy	.....
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allahabad	29.28	743.7	29.59	751.5	89.6	32.0	69	Calm	2.4	1.1	.....	.....	2	.....	.....	0	0	D. clouds	.....
Patna	29.45	747.9	29.62	752.4	90.1	32.3	72	E	2.3	1.0	.....	.....	5	E	E	0	0	D. clouds	.....
Hazaribagh	27.63	701.9	29.62	752.3	81.8	27.7	75	E	7.8	3.5	.....	.....	7	E	.....	0.01	0.3	Raining	.....
Cuttack	29.46	748.2	29.54	750.3	81.0	27.2	83	SSE	1.3	0.6	.....	.....	8	.....	.....	0.71	18.0	D. clouds	.....
Calcutta (Alipore)	29.63	752.5	29.65	753.1	79.9	26.6	93	ESE	3.0	1.3	.....	.....	6	SE	SE	0.24	6.1	Showery	.....
Goalpara	29.29	744.0	29.68	753.8	82.4	28.0	83	WSW	2.9	1.3	.....	.....	9	.....	.....	0.10	2.5	Thunder	.....
Chittagong	29.66	753.2	29.75	755.6	81.5	27.5	81	SE	3.3	1.5	.....	.....	8	.....	.....	0	0	Misty	.....
Sibsagar	29.32	744.8	29.65	753.1	89.1	31.7	73	SSE	2.7	1.2	.....	.....	10	W	W	0	0	D. clouds	.....
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.27	718.1	29.64	752.7	77.8	25.4	93	E	4.0	1.8	.....	.....	10	.....	.....	0.71	18.0	Overcast	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.56	750.8	29.95	760.8	78.3	25.7	67	S	1.5	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.83	757.6	29.93	760.3	80.4	26.9	62	ENE	8.7	3.9	.....	.....	8	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.74	755.3	29.92	760.0	81.9	27.7	55	SE	2.5	1.1	.....	.....	5	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.64	727.5	29.89	759.3	82.4	28.0	45	WSW	.....	.....	2	.....	6	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.43	747.5	29.93	760.1	82.4	28.3	52	NW	.....	.....	2	.....	4	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.04	737.7	29.91	759.6	80.2	26.8	61	ESE	3.1	1.4	.....	.....	7	E	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.07	712.9	29.89	759.1	77.2	25.1	58	NE	.....	.....	4	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.77	756.1	29.98	761.5	76.6	24.8	70	E	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.82	757.4	29.98	761.6	77.7	25.4	66	S	.....	.....	2	.....	8	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.62	752.3	29.92	760.0	83.1	28.4	39	W	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.72	754.8	29.96	761.0	82.6	27.8	40	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.89	759.1	29.97	761.2	78.1	25.6	61	W	3.1	1.4	.....	.....	2	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.89	759.2	29.94	760.4	78.4	25.8	64	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.46	722.8	29.94	760.4	79.9	26.6	41	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.80	756.9	29.97	761.2	84.2	29.0	52	S	9.8	4.4	.....	.....	1	.....	.....	.....	.....	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.80	756.8	29.99	761.7	82.2	27.9	52	SW	.....	.....	6	.....	2	SSW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.72	754.8	29.96	760.9	84.2	29.0	28	ESE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.78	756.3	29.96	761.0	81.5	27.5	62	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.0	29.93	760.2	87.1	30.9	60	SW	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.75	755.7	30.00	761.9	79.5	26.4	55	NE	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	758.9	29.95	760.8	85.5	29.7	53	SE	.....	.....	1	.....	1	WSW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	748.1	30.01	762.2	80.4	26.9	58	WSW	4.9	2.2	.....	.....	3	SW	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.66	753.3	29.86	758.4	78.7	25.9	85	NE	3.3	1.5	.....	.....	5ck;ks	NE	N	0.010	0.25	Cloudy	I. Arai, Director.
Tokei (Yeddo) Observatory.	29.81	757.2	29.88	758.9	73.8	23.2	95	Calm	0	0	.....	1ck;cs	0	.....	.....	0.010	0.25	Fair	
Tokei (Yeddo) University.	29.77	756.1	29.86	758.5	74.5	23.6	98	W	1	0.4	.....	2ck	.....	W	.....	0	0	Fair	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	65.8	18.8	88	N	5.1	2.3	.....	5ck	4ks	E	E	0.28	7.0	Cloudy	L. Castillo, A. E.
Guadalajara	25.06	636.4	30.01	762.1	58.1	14.5	88	SE	0.9	0.4	.....	0	5	.....	SE	Inap.	Inap.	⅓ cloudy	Prof. L. Perez.
Guanajuato	23.66	601.1	29.79	756.8	63.9	17.7	72	SE	.....	.....	.....	4	0	.....	.....	0	0	⅓ cloudy	Prof. V. Fernandez
Leon	24.39	619.4	29.96	760.9	65.5	18.6	74	S	0.9	0.4	.....	3c	1k	SE	.....	0	0	⅓ cloudy	Prof. M. Leal.
Mexico	23.07	589.9	30.03	762.7	57.7	14.3	88	Calm	0	0	.....	0	8k	.....	.....	0.40	10.1	.....	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.9	18.3	74	NNE	0.9	0.4	.....	0	9ks	.....	E	0	0	Very cloudy	M. V. de Leon, M. E
Puebla	23.31	592.0	29.92	759.8	57.0	13.9	88	Calm	0	0	.....	0	10k	.....	E	0.14	3.5	Covered	Prof. B. Gonzalez,
Tlacotalpam	29.81	757.1	29.82	757.4	76.1	24.5	91	N	5.1	2.3	.....	0	10n	.....	N	2.13	54.0	Rainy	Prof. F. R. Bayly.
San Luis Potosi	24.21	614.1	30.10	764.5	65.0	18.3	79	E	0.9	0.4	.....	0	10	.....	E	0	0	Covered	G. Barroeta, M. D.
Vera-Cruz	29.86	758.4	29.89	759.1	80.6	27.0	84	NW	3.8	1.7	.....	0	10n	.....	N	1.29	32.8	Raining	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	NNE	11.0	4.9	.....	0	8	.....	E	.....	.....	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	590.9	29.99	761.9	55.4	13.0	85	SW	0.7	0.3	.....	3	4	E	E	0.22	5.5	Cloudy	Prof. P. Spina, (M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.29	718.5	29.91	759.7	77.7	25.4	87	Calm	0	0	.....	0	8	.....	.....	0	0	Cloudy	R. Banda, C. E.
San Juan E. Michapam	29.66	753.4	29.81	757.1	77.5	25.3	.....	Calm	0	0	.....	4c	2ck	.....	E	0.07	1.8	Cloudy	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.76	755.9	29.76	755.9	67.6	19.8	.....	SW	.....	.....	5	.....	.....	.....	.....	0.094	2.4	.....	H. v d Brink.
Groningen	29.62	752.4	29.68	753.8	66.4	19.1	.....	SW	.....	.....	4	.....	.....	.....	.....	0.063	1.6	.....	
Helder	29.65	753.2	29.65	753.2	66.2	19.0	.....	SW	.....	.....	5	.....	.....	.....	.....	0.098	2.5	.....	
Hellevoetsluis	29.70	754.4	29.70	754.4	65.7	18.7	88	SW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.70	754.4	29.75	755.6	68.5	20.3	71	SW	.....	.....	4	.....	8	.....	.....	0.165	4.2	Very cloudy	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.30	744.1	29.35	745.5	59.7	15.4	81	SSE	8.7	3.9	.....	.....	5	.....	.....	0.307	7.8	Raining.....	
Brönö	29.38	746.3	29.42	747.3	55.8	13.2	68	NNE	18	8	.....	.....	9	.....	.....	0	0	.....	
Christiania	29.24	742.7	29.38	746.3	61.5	16.4	94	SE	0	0	.....	.....	10	.....	.....	0.181	4.6	Light rain...	
Tromsö	29.52	749.8	29.56	750.9	49.3	9.6	69	NE	11	5	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.95	760.6	30.13	765.3	76.8	24.9	85	W	5.6	2.5	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.2	29.90	761.8	86.4	30.3	35	SW	8.7	3.9	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	763.1	30.13	765.3	78.1	25.6	68	WSW	6.9	3.1	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. da Cunha.
Lisbon, Observatory	29.73	755.1	30.08	763.9	77.9	25.5	57	WNW	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.11	764.8	30.18	766.5	81.3	27.4	74	W	11.9	5.3	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—			
Bartholomew Dias	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44', W. 25° 41'	2	.....	D. clouds.....		A. M. de Sande, Com'd.
India	.....	.....	.....		A. D. Pedroso, Com'd.
Mindello, S. 22° 29', E. 36° 02'	8	.....	Drizzling....		J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13', E. 12° 02'	0	.....	D. Clouds ...		A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....		J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07', W. 23° 0'	3	NE	D. clouds.....		L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	1	.....	D. clouds.....		F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....		E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.38	746.3	29.79	756.7	70.3	21.3	81	SSW	7	3	.....	.....	5cks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.39	746.5	29.80	756.8	69.3	20.7	83	WSW	2	1	.....	.....	10	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.48	748.8	29.71	754.7	72.1	22.3	47	WSW	9	4	.....	.....	6k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.64	752.8	29.65	753.2	67.5	19.7	68	NW	11	5	.....	.....	2ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.24	742.6	29.83	757.7	80.6	27.0	37	S	7	3	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.87	758.6	29.94	760.4	82.4	28.0	40	ENE	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.88	759.0	29.90	759.5	72.0	22.2	72	NNE	9	4	.....	.....	8	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.34	745.2	29.85	758.3	81.0	27.2	41	S	11	5	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.72	754.9	29.92	759.9	78.6	25.9	42	E	4	2	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.59	751.6	29.61	752.1	53.8	12.1	63	WNW	13	6	.....	.....	2ks	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.39	721.0	29.71	754.7	85.3	29.6	49	Calm	0	0	.....	.....	9ks	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.96	761.0	29.88	758.9	81.9	27.7	40	ENE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.65	753.2	29.91	759.6	80.2	26.8	48	W	2	1	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.91	734.4	29.82	757.4	72.1	22.3	48	W	9	4	.....	.....	5ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.51	749.6	29.73	755.2	87.3	30.7	29	NNE	11	5	.....	.....	1ks	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.13	714.6	29.76	755.8	87.1	30.6	49	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.30	744.2	29.80	756.9	71.2	21.8	38	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.56	750.7	29.84	757.9	61.0	16.1	66	SE	9	4	.....	.....	7	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.72	755.0	29.87	758.6	79.2	26.2	84	Calm	0	0	.....	.....	6ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.85	758.2	29.95	760.7	82.8	28.2	61	S	1.5	0.67	.....	.....	2c	.....	.....	0	0	Clear.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.89	759.1	29.94	760.5	83.8	28.8	59	NW	2.6	1.15	.....	3	1	SW	.....	0	0	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.08	687.9	.....	.....	82.4	28.0	50	SW	4.8	2.17	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez.
Madrid, Royal Observatory	27.80	706.2	29.86	758.5	94.8	34.9	23	SW	12.7	5.67	.....	1	0	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.82	757.3	29.96	760.9	93.2	34.0	46	SSW	3.2	1.44	.....	.....	1	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.12	739.6	29.99	761.8	70.0	21.1	75	SW	13.9	6.19	.....	.....	10	.....	.....	0.087	2.2	Covered.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.84	757.9	29.90	759.6	83.4	28.6	81	ENE	3.8	1.7	.....	0	1k	.....	ENE	0	0	Clear.....	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.94	760.5	30.04	762.9	77.2	25.1	69	W	10.8	4.8	.....	0	2	W	0	0	.....		Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.3	30.02	762.6	83.1	28.4	88	SE	8.6	3.84	.....	2k	3k	SE	SE	0.020	0.50	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p.m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 800 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.56	750.9	29.60	751.9	60.1	15.6	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.51	749.5	29.56	750.8	57.9	14.4	76	E	.....	.....	2	.....	10	.....	.....	0.201	5.1	.....	
Hernosand	29.45	748.1	29.50	749.4	57.6	14.2	90	E	.....	.....	2	.....	10	.....	.....	0.181	4.6	Raining	
Stockholm	29.40	746.7	29.58	751.2	65.1	18.4	78	S	.....	.....	4	.....	7	.....	.....	0	0	.....	
Wisby	29.58	751.4	29.64	752.9	67.6	19.8	58	SSW	.....	.....	7	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.47	748.4	29.54	750.3	62.8	17.1	89	S	11.2	5.0	.....	.....	10	SW	SSW	0.141	3.57	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.56	725.5	29.92	760.0	78.4	25.8	32	SSW	.....	.....	6	.....	3	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.35	720.2	29.93	760.1	74.3	23.5	62	W	.....	.....	2	.....	4	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.3 mm.; Thermometer, +3.8 cent.; Relative Humidity, —22 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.93	760.2	73.8	23.2	74	NE	16	7.0	.....	.....	9	.....	NNE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.08	764.1	78.4	25.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.63	752.6	29.74	755.4	91.4	33.0	60	W	.....	.....	2	.....	3s	.....	W	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.79	756.7	29.86	758.4	63.9	17.7	88	NE	3	1.3	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.3	29.87	758.7	71	21.7	.....	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N. B	29.81	757.2	29.87	758.7	65	18.3	89	Calm	0	0	.....	5ck	0	.....	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.82	757.4	29.86	758.4	68	20.0	84	NE	4	1.8	.....	.....	5ks	.....	.....	0	0	Fair	G. A. Blair.
Cornwall, Ontario	29.67	753.6	29.85	758.2	66.6	19.2	78	W	.....	.....	3	0	7s	.....	Calm	0.010	0.25	Cloudy	H. J. Cundall, C. E.
Dalhousie, N. B	29.70	754.4	29.86	758.4	62.9	17.2	94	E	.....	.....	1	.....	.....	.....	.....	0	0	Cloudy	James Smith, M. A.
Esquimault, B. C	29.97	761.2	30.02	762.5	53.2	11.8	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Cloudy	H. A. Johnson.
*Father Point, Quebec	29.82	757.4	29.84	757.8	59	15.0	91	SW	15	6.7	.....	5k	5ks	W	W	0	0	Clear	W. H. Bevis.
Fredericton, N. B	29.84	757.9	29.90	759.4	64.0	17.8	79	N	6	2.7	.....	2ck	0	.....	.....	0	0	Cloudy	J. McWilliams.
*Fort Garry Manitoba	28.87	733.3	29.67	753.6	59	15.0	91	W	5	2.2	.....	2c	Haze	W	W	0.530	13.46	Fair	Prof. Harrison.
Granton, Ontario	28.83	732.3	29.90	759.4	62	16.7	100	W	.....	.....	1	0	0	.....	.....	0	0	Fair	James Stewart.
*Halifax, N. S	29.75	755.6	29.88	758.9	66	18.9	83	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	James Grant.
Hamilton, Ontario	29.58	751.3	29.95	760.7	61.6	16.4	80	NW	.....	.....	1	2c	0	NW	.....	0	0	Clear	F. Allison, M. A.
Heart's Content, N. F	29.97	761.2	30.00	762.0	58	14.4	82	S	.....	.....	1	0	10	.....	.....	0	0	Clear	Geo. Dickson, M. A.
*Kingston, Ontario	29.69	751.8	29.92	760.0	67	19.4	79	SE	1	0.4	.....	5c	2ks	Calm	Calm	0.29	7.4	Fair	E. Weedon.
Little Glace Bay, N. S	29.88	758.9	29.92	760.0	65.0	18.3	.....	S	4	1.8	.....	.....	10n	.....	.....	0	0	Overcast	S. Woods, M. A.
*Montreal, Quebec	29.70	754.4	29.89	759.2	63	17.2	88	S	5	2.2	.....	.....	8ks	.....	W	0	0	Cloudy	C. H. Rigby.
*Parry Sound, Ontario	29.21	741.9	29.88	758.9	63	17.2	96	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
Peterboro, Ontario	29.09	738.9	29.82	757.4	64.2	17.9	75	W	.....	.....	1	2k	0	.....	.....	0.03	0.8	Fine	Rev. R. Mosley.
Port Dover, Ontario	29.26	743.2	29.93	760.2	62	16.7	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	J. F. Jeffers, B. A.
Port Hastings, N. S	29.85	758.2	29.90	759.4	58.0	14.4	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	H. Morgan.
Port Stanley, Ontario	29.30	744.2	29.93	760.2	60	15.6	96	NW	1	0.4	.....	2ck	0	W	.....	0	0	Clear	Peter Grant.
*Quebec, Quebec	29.59	751.6	29.90	759.4	60	15.6	94	W	.....	.....	1	.....	10n	.....	W	0	0	Cloudy	M. Payne.
*Rockliffe, Ontario	29.46	748.0	29.90	759.4	55	12.8	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N.
St. Andrews, N. B	29.84	757.9	29.89	759.2	68	20.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	W. H. McIntyre.
St. John, N. B	29.74	755.4	29.90	759.4	61	16.1	88	S	6	2.7	.....	2ck	0	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.2	29.86	758.4	67	19.4	74	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.10	739.1	29.85	758.2	66	18.9	73	E	1	0.4	.....	2c	0	Calm	.....	Inap.	Inap.	Fair	R. J. Cole.
Stratford, Ontario	28.66	728.0	29.91	759.7	58.1	14.5	91	Calm	0	0	.....	1es	2s	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.90	759.4	29.93	760.2	61	16.1	96	SW	4	1.8	.....	.....	10n	.....	.....	Inap.	Inap.	Cloudy	T. C. Hill.
*Toronto, Ontario	29.57	751.1	29.94	760.5	64	17.8	84	Calm	0	0	.....	2ck	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	55.0	12.8	80	NE	.....	.....	.....	5cs	5n;s	.....	.....	Inap.	Inap.	Cloudy	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	Velocity. Miles per hour.	Velocity. Meters per second.	Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	Amount. Low'r 0—10.	Direction. Upper. From—	Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.72	754.9	29.93	760.2	65	18.3	84	W	1	0.4	.....	0	5ks	.....	W	0	0	Fair	
Alpena, Michigan	29.20	741.7	29.82	757.4	63	17.2	77	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear.	
Atlantic City, New Jersey	29.96	761.0	29.98	761.5	69	20.6	90	SW	4	1.8	.....	8c	0	Calm	.....	0	0	Fair	
Augusta, Georgia	29.78	756.4	29.96	761.0	78	25.6	86	Calm	0	0	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Baltimore, Maryland	29.91	759.7	29.96	761.0	73	22.8	81	E	3	1.3	.....	2k	8s	W	Calm	0	0	Cloudy	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	70	21.1	85	SW	6	2.7	.....	8c	0	Calm	.....	0	0	Fair	
Bismarck, Dakota	28.07	713.0	29.93	760.2	59	15.0	65	W	8	3.6	.....	Haze	Haze	.....	.....	0	0	Hazy	
Boerne, Texas	28.40	721.3	.....	.....	75	23.9	90	Calm	0	0	.....	2ck	0	Calm	.....	0.71	18.0	Clear	
Boise City, Idaho	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Boston, Massachusetts	29.82	757.4	29.96	761.0	72	22.2	62	W	5	2.2	.....	Haze	Haze	W	W	6	0	Hazy	
Brackettville, Texas	28.79	731.3	29.78	756.4	77	25.0	82	Calm	0	0	.....	0	0	.....	.....	0.69	17.5	Clear	
Breckenridge, Minnesota	28.75	730.2	29.70	754.4	58	14.4	94	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.87	758.7	29.93	760.2	80	26.7	78	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Buffalo, New York	29.24	742.7	29.91	759.7	66	18.9	79	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	80	31.7	50	Calm	.....	.....	0	5ck	0	Calm	.....	Inap.	Inap.	Fair	
Burlington, Vermont	29.68	753.9	29.92	760.0	67	19.4	79	S	6	2.7	.....	5k	0	W	.....	0.01	0.3	Fair	
Cairo, Illinois	29.56	750.8	29.93	760.2	75	23.9	68	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	63	16.1	82	E	.....	.....	1	2c	0	Calm	.....	Blank	Blank	Fair	
Camp Grant, Arizona	25.21	640.3	30.01	762.2	70	21.1	80	W	.....	.....	1	5ck	5s	NE	Calm	0.68	17.3	Cloudy	
Camp Verde, Arizona	26.73	678.9	30.22	767.6	78	25.6	57	S	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Campo, California	27.34	694.4	29.91	759.7	69	20.6	90	Calm	.....	.....	0	10cs	0	Calm	.....	0	0	Cloudy	
Cape Hatteras, N. Carolina	29.94	760.5	29.95	760.7	77	25.0	86	SW	25	11.2	.....	.....	10s	.....	SW	0.84	21.3	Cloudy	
Cape Henry, Virginia	29.96	761.0	29.98	761.5	74	23.3	95	SE	6	2.7	.....	.....	10n	.....	Calm	0.13	3.3	Light rain	
Cape Lookout, N. Carolina	29.93	760.2	29.95	760.7	79	26.1	87	SW	38	17.0	.....	.....	10n	.....	SW	0.42	10.7	Light rain	
Cape May, New Jersey	29.95	760.7	29.98	761.5	72	22.2	85	SE	6	2.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Castroville, Texas	29.14	740.1	29.80	756.9	76	24.4	91	Calm	0	0	.....	5ck	0	SE	.....	0.12	3.0	Fair	
Charleston, South Carolina	29.93	760.2	30.00	762.0	80	26.7	87	SW	8	3.6	.....	0	8s	.....	SW	0.70	17.8	Clearing	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	52	11.1	86	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Chicago, Illinois	29.17	740.9	29.82	757.4	69	20.6	75	SW	8	3.6	.....	0	Sm'e	.....	.....	0	0	Clear.	
Cincinnati, Ohio	29.24	742.7	29.86	758.4	71	21.7	75	NW	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Cleveland, Ohio	29.20	741.7	29.89	759.2	65	18.3	63	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.17	715.5	29.78	756.4	67	19.4	79	N	4	1.8	.....	0	Haze	.....	.....	0	0	Hazy	
Columbus, Ohio	29.07	738.4	29.86	758.4	71	21.7	67	N	2	0.9	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Concho, Texas	28.96	712.7	29.69	754.1	61	16.1	82	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.44	747.8	29.89	759.2	75	23.9	95	N	4	1.8	.....	.....	10s	.....	N	0	0	Cloudy	
Davenport, Iowa	29.26	743.2	29.87	758.7	70	21.1	80	SW	1	0.4	.....	1cs	0	NW	.....	0	0	Clear	
Denison, Texas	29.15	740.4	29.92	760.0	70	21.1	96	N	3	1.3	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Denver, Colorado	24.86	631.4	30.08	764.0	58	14.4	76	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.01	736.8	29.84	757.9	74	23.3	68	W	.....	.....	1	.....	10s	.....	W	0.02	0.5	Cloudy	
Detroit, Michigan	29.24	742.7	29.88	758.9	67	19.4	69	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.37	695.2	29.56	750.8	67	19.4	79	SE	12	5.4	.....	2ck	2s	N	Calm	0	0	Fair	
Dubuque, Iowa	29.15	740.4	29.81	757.2	70	21.1	75	W	7	3.1	.....	.....	10ks	.....	W	0	0	Threatening	
Duluth, Minnesota	29.03	737.3	29.67	753.6	64	17.8	83	Calm	0	0	.....	5k	2s	SW	Calm	0.07	1.8	Cloudy	
Eagle Pass, Texas	29.10	739.1	29.81	757.2	76	24.4	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.84	757.9	29.90	759.4	66	18.9	74	Calm	0	0	.....	5ck	0	W	.....	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	76	24.4	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.21	741.9	29.89	759.2	67	19.4	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.13	739.9	29.75	755.6	64	17.8	78	SW	6	2.7	.....	5c	0	SW	.....	0.23	5.8	Fair	
Florence, Arizona	.....	.....	.....	.....	80	26.7	59	S	.....	.....	1	5ck	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	25.59	650.0	29.65	753.1	62	16.7	88	SE	1	0.4	.....	0	0	.....	.....	0.12	3.0	Clear	
Fort Davis, Texas	25.24	641.1	30.20	767.1	70	21.1	71	NW	1	0.4	.....	5c	0	NE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.40	746.7	29.92	760.0	68	20.0	90	S	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Fort Griffin, Texas	28.70	729.0	29.93	760.2	68	20.0	84	Calm	0	0	.....	0	2s	.....	Calm	0	0	Clear	
Fort McKavett, Texas	27.81	706.4	29.67	753.6	70	21.1	70	E	20	8.9	.....	2c	0	NE	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.85	758.2	63	17.2	94	N	7	3.1	.....	0	Fog	.....	Calm	0	0	Clear	
Fredericksburg, Texas	28.21	716.5	29.70	754.4	74	23.3	76	NW	1	0.4	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.89	759.2	29.93	760.2	80	26.7	78	W	5	2.2	.....	2k	5ks	W	W	0	0	Fair	
Graham, Texas	28.88	733.5	29.90	759.4	68	20.0	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Grand Haven, Michigan	29.22	742.2	29.85	758.2	65	18.3	78	SE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.14	740.1	29.88	758.9	69	20.6	80	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Indianola, Texas	29.90	759.4	29.93	760.2	81	27.2	91	Calm	0	0	.....	2ck	5ks	Calm	S	0.21	5.3	Cloudy	
Jacksboro, Texas	28.83	732.3	29.92	760.0	70	21.1	90	NW	4	1.8	.....	.....	10ks	.....	NW	0	0	Cloudy	
Jacksonville, Florida	29.95	760.7	29.98	761.5	83	28.3	79	Calm	0	0	.....	0	0	.....	.....	1.08	27.4	Clear	
Keokuk, Iowa	29.26	743.2	29.84	757.9	76	24.4	69	SW	4	1.8	.....	0	2s	.....	W	0	0	Fair	
Key West, Florida	29.89	759.2	29.92	760.0	85	29.4	79	E	10	4.5	.....	0	5ks	.....	E	0.02	0.5	Fair	
Kittyhawk, North Carolina	29.91	759.7	29.94	760.5	72	22.2	100	W	3	1.3	.....	.....	10n	.....	W	0.57	14.5	Light rain	
Knoxville, Tennessee	28.93	734.8	29.89	759.2	72	22.2	95	Calm	0	0	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
La Crosse, Wisconsin	29.05	737.9	29.74	755.4	69	20.6	80	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	70	21.1	80	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Laredo, Texas	29.46	748.3	29.78	756.4	83	28.3	71	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.92	633.0	30.15	766.0	50	10.0	79	S	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Leavenworth, Kansas	29.07	738.4	29.88	758.9	69	20.6	75	SW	1	0.4	.....	2ck	Haze	Calm	Calm	0	0	Fair	
Los Angeles, California	29.47	748.5	29.80	756.9	66	18.9	84	W	2	0.9	.....	1c	2s	Calm	Calm	0	0	Fair	
Louisville, Kentucky	29.34	745.2	29.88	758.9	71	21.7	66	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Hazy	
Lynchburg, Virginia	29.28	743.7	29.94	760.5	73	22.8	85	SE	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.05	737.3	29.69	754.1	66	18.9	74	SE	8	3.6	.....	0	0	.....	.....	0.14	3.6	Clear	
Mason, Texas	28.31	719.1	29.98	761.5	73	22.8	85	W	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Memphis, Tennessee	29.01	752.1	29.91	759.7	74	23.3	90	NE	4	1.8	.....	.....	10s	.....	NE	0.30	7.6	Cloudy	
Milwaukee, Wisconsin	29.10	739.1	29.79	756.7	68	20.0	74	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Mobile, Alabama	29.91	759.7	29.96	761.0	81	27.2	83	SW	3	1.3	.....	1ck	8s	Calm	SW	Inap.	Inap.	Threatening	
Montgomery, Alabama	29.70	754.4	29.92	760.0	78	25.6	82	Calm	0	0	.....	.....	10s	.....	Calm	0.81	20.6	Cloudy	
Morgantown, West Virginia	28.89	733.8	29.90	759.4	66	18.9	89	Calm	0	0	.....	10c	Sm'e	N	Calm	0	0	Cloudy	
Mt. Washington, N. H.	23.84	605.5	30.20	767.1	42	5.6	100	NW	16	7.2	.....	.....	Fog	.....	NW	0.02	0.5	Foggy	
Nashville, Tennessee	29.39	746.5	29.90	759.4	75	23.9	77	N	1	0.4	.....	.....	10s	.....	SW	0.03	0.8	Cloudy	
New Haven, Connecticut	29.86	758.4	29.97	761.2	73	22.8	72	Calm	0	0	.....	2cs	Haze	SW	Calm	0	0	Fair	
New London, Connecticut	29.93	760.2	29.98	761.5	72	22.2	71	Calm	0	0	.....	5cs	Haze	W	Calm	0	0	Fair	
New Orleans, Louisiana	29.88	758.9	29.93	760.2	81	27.2	79	S	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Newport, Rhode Island	29.92	760.0	29.97	761.2	71	21.7	71	SW	1	0.4	.....	4c	0	SW	.....	0	0	Fair	
New York, New York	29.81	757.2	29.98	761.5	70	21.1	75	W	1	0.4	.....	5cs	Haze	W	.....	0	0	Fair	
Norfolk, Virginia	29.89	759.2	29.95	760.7	75	23.9	90	S	5	2.2	.....	.....	10n	.....	Calm	0.26	6.6	Light rain	
North Platte, Nebraska	27.08	687.8	29.55	750.6	64	17.8	89	NE	6	2.7	.....	2ck	0	NE	.....	0	0	Clear	
Olympia, Washington Ter.	30.03	762.7	30.06	763.5	49	9.4	93	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.78	731.0	29.81	757.2	68	20.0	84	S	6	2.7	.....	.....	10n	.....	Calm	0.15	3.8	Light rain	
Oswego, New York	29.63	752.6	29.91	759.5	66	18.9	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.92	734.6	29.73	755.1	55	12.8	93	W	5	2.2	.....	2c	0	Calm	.....	0.29	7.4	Clear	
Philadelphia, Pennsylvania	29.93	760.2	29.98	761.5	72	22.2	76	SE	2	0.9	.....	5c	Sm'e	W	Calm	0	0	Fair	
Phœnix, Arizona	28.63	727.2	.....	.....	87	30.6	58	N	.....	.....	.....	8c	0	N	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.08	459.2	30.29	769.4	38	3.3	75	NW	10	4.5	.....	0	0	.....	.....	0	0	Clear.....	
Pioche, Nevada	24.16	613.6	29.92	760.0	65	18.3	39	S	3	1.3	.....	1ck	0	Calm	.....	0	0	Fair.....	
Pittsburg, Pennsylvania	29.12	739.6	29.90	759.4	64	17.8	83	NE	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear.....	
Port Huron, Michigan	29.23	742.4	29.86	758.4	68	20.0	70	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Portland, Maine	29.87	758.7	29.92	760.0	68	20.0	74	Calm	0	0	.. ....	0	Haze	.....	.....	0	0	Clear.....	
Portland, Oregon	30.01	762.2	30.12	765.0	55	12.8	81	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Prescott, Arizona	24.83	630.7	30.19	766.8	63	17.2	33	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Punta Rassa, Florida	29.96	761.0	29.98	761.5	83	28.3	83	E	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear.....	
Red Bluff, California	29.37	746.0	29.71	754.6	81	27.2	35	NW	8	3.6	.....	1k	Haze	S	Calm	0	0	Clear.....	
Rochester, New York	29.33	745.0	29.92	760.0	64	17.8	78	W	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.....	
Roseburg, Oregon	29.48	748.8	30.04	763.0	54	12.2	84	NE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Sacramento, California	29.64	752.8	29.72	754.9	73	22.8	50	S	3	1.3	.....	8ck	0	Calm	.....	0	0	Clear.....	
St. Louis, Missouri	29.38	746.2	29.93	760.2	71	21.7	75	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Fair.....	
St. Marks, Florida	29.87	758.7	29.98	761.5	79	26.1	91	NW	3	1.3	.....	1k	0	Calm	.....	0	0	Foggy.....	
St. Paul, Minnesota	28.88	733.5	29.67	753.6	62	16.7	83	SE	7	3.1	.....	0	0	.....	.....	0.08	2.0	Clear.....	
Salt Lake City, Utah	25.66	651.8	29.99	761.7	65	18.3	26	E	3	1.3	.....	0	0	.....	.....	0.08	2.0	Clear.....	
San Antonio, Texas	29.23	742.4	29.79	756.7	75	23.9	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Diego, California	29.77	756.1	29.84	757.9	69	20.6	90	Calm	0	0	.....	5cs	0	Calm	.....	0.22	5.6	Fair.....	
Sandusky, Ohio	29.26	743.2	29.90	759.4	70	21.1	66	S	4	1.8	.....	.....	10s	....	Calm	0	0	Cloudy.....	
Sandy Hook, New Jersey	29.94	760.5	29.97	761.2	76	24.4	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
San Francisco, California	29.73	755.1	29.79	756.7	55	12.8	93	SW	3	1.3	.....	5c	0	NW	.....	0	0	Fair.....	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	55	12.8	68	Calm	0	0	.....	0	8s;fg	.....	Calm;Sw	0	0	Fair.....	
Savannah, Georgia	29.88	758.9	29.97	761.2	84	28.9	78	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear.....	
Shreveport, Louisiana	29.67	753.6	29.88	758.9	75	23.9	95	S	2	0.9	.....	8k	Haze	W	.....	0.27	6.9	Fair.....	
Silver City, New Mexico	24.35	618.5	.....	.....	63	17.2	88	N	5	2.2	.....	.....	10s	.....	Calm	1.60	40.6	Cloudy.....	
Smithville, North Carolina	29.96	761.0	29.99	761.7	77	25.0	91	S	30	13.4	.....	0	5s	.....	Calm	0.68	17.3	Fair.....	
Springfield, Massachusetts	29.79	756.7	29.92	760.0	64	17.8	89	Calm	0	0	.....	.....	40n	.....	S	0.45	10.4	Light rain..	
Stockton, Texas	26.94	684.3	29.94	760.5	67	19.4	41	SE	4	1.8	.....	0	Fog	.....	Calm	0	0	Foggy.....	
Thatcher's Island, Mass	29.90	759.4	29.96	761.0	66	18.9	79	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Toledo, Ohio,	29.23	742.4	29.87	758.7	71	21.7	71	W	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Tucson, Arizona	27.26	692.4	29.81	757.2	80	26.7	78	W	4	1.8	.....	2cs	Haze	Calm	Calm	0	0	Fair.....	
Tybee Island, Georgia	29.95	760.7	29.98	761.5	82	27.8	83	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Umatilla, Oregon	29.63	752.6	.....	.....	61	16.1	50	E	4	1.8	.....	2c	2ks	W	Calm	0	0	Fair.....	
Uvalde, Texas	29.01	736.8	29.80	756.9	77	25.0	77	SE	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Fair.....	
Vicksburg, Mississippi	29.69	754.1	29.94	760.5	77	25.0	95	W	5	2.2	.....	0	0	.....	.....	0.14	3.6	Clear.....	
Virginia City, Montana	24.38	619.2	29.86	758.4	62	16.7	51	SE	8	3.6	.....	.....	10s	.....	Calm	0.13	3.3	Cloudy.....	
Visalia, California	29.40	746.7	29.75	755.6	74	23.3	71	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Washington, D. C.	29.84	757.9	29.95	760.7	72	22.2	85	N	4	1.8	.....	2k	0	Calm	.....	0	0	Clear.....	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	73	E	.....	.....	1	.....	10s;fg	.....	Calm	0	0	Cloudy.....	
Wilmington, N. Carolina	29.88	758.9	29.96	761.0	74	23.3	100	S	10	4.5	.....	8cs	0	S	.....	0	0	Fair.....	
Winnemucca, Nevada	25.65	651.5	30.01	762.2	64	17.8	17	NE	12	5.4	.....	.....	10s	.....	SW	0.49	12.4	Threatening	
Wood's Holl, Mass	29.92	760.0	29.97	761.2	72	22.2	85	SW	3	1.3	.....	2cs	Haze	Calm	Calm	0	0	Fair.....	
Yankton, Dakota	28.56	725.4	29.79	756.7	64	17.8	88	SW	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear.....	
Yuma, Arizona	29.62	752.3	29.77	756.1	87	30.6	62	SE	2	0.9	.....	0	0	....	.....	0	0	Clear.....	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10ks	.....	E	Inap.	Inap.	Cloudy.....	
York Factory, B. A.	29.88	758.9	29.93	760.2	54.5	12.5	90	SE	9	4.0	.....	2c	2s	NE	SE	0.60	15.2	Cloudy.....	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	29.87	758.7	29.89	759.2	86	30.0	79	Calm	0	0	.....	8k	0	NE	.....	0	0	Cloudy.....	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	4	1.8	.....	2c	2ks	E	.....	0	0	Clear.....	G. O. Gellich.
Kingston, Jamaica, W. I.	30.08	764.0	30.09	764.3	78	25.6	90	SE	10	4.5	.....	.....	10n	.....	SE	3.86	98.0	.....	James Gall.
Navassa, W. I.	29.84	757.9	29.92	760.0	80	26.7	.....	SE	28.8	12.9	.....	.....	.....	.....	.....	0	0	Cloudy.....	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	81	27.2	87	SW	.....	.....	2	5k	7ks	E	.....	0	0	½ cloudy.....	C. J. Hering
Medellin, Colombia, S. A.	25.27	641.8	.....	.....	65.5	18.6	82	.....	.....	.....	.....	.....	10n	.....	.....	0.86	21.8	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m.; Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.08	764.0	83	28.3	83	28.3	81	SW	1	0.4	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.93‡	760.2‡	.....	.....	66	18.9	84	W	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.92*	760.0*	76	24.4	74.9	23.8	95	SW	.....	.....	1	.....	8k	.....	SW	0.13	3.3	.....	.....	Cloudy	
Adams. Apia, Samoan Islands	30.00	762.0	78	25.6	77	25.0	95	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Pleasant	
Alliance. N. 39° 01′, W. 9° 44′ 30″	30.10‡	764.5‡	.....	.....	71	21.7	90	SSW	.....	.....	0–1	.....	10	.....	S	.....	.....	Light	W	Foggy	
Ashuelot. Kobe, Japan	30.00	762.0	82	27.8	79	26.1	100	Calm	.....	.....	0	.....	8	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Alaska. S. 28° 18′, W. 45° 49′	30.53	775.4	66	18.9	61	16.1	82	SE	.....	.....	5	.....	10	.....	SE	0.13	3.3	Mod'ate	SSE	Drizzling	
Canonicus, New Orleans, La.	29.97	761.2	56	13.3	80	26.7	91	S	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Colorado. New York, N. Y.	29.92‡	760.0‡	.....	.....	76	24.4	68	SW	3	1.3	.....	.....	8	.....	SW	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.82‡	757.4‡	.....	.....	65	18.3	84	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Despatch. Volo, Turkey	29.95‡	760.7‡	.....	.....	82	27.8	60	SE	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va.	30.07	763.8	78	25.6	75	23.9	95	S	7	3.1	.....	.....	10	.....	SSW	0.4	10.	.....	.....	Raining	
Gettysburg Villefranche, France	29.90‡	759.4‡	.....	.....	79	26.1	??	ESE	.....	.....	1	.....	5	.....	Calm	0	0	Smooth	.....	Fair	
Hartford, Rio de Janeiro, Brazil	30.27	768.8	.....	.....	70	21.1	80	NW	1.2	0.5	.....	.....	10	.....	WNW	0	0	.....	.....	Cloudy	
Marion, Villefranche, France	30.00	762.0	78	25.6	79	26.1	70	ESE	.....	.....	1	.....	10	.....	ESE	0	0	Smooth	S	Cloudy	
Michigan, Sault St. Marie	29.26	743.2	69	20.6	65	18.3	89	SSE	.....	.....	3	.....	10	.....	SSE	.....	.....	.....	.....	Cloudy	
Monocacy. Yokohama, Japan	29.88‡	758.9‡	.....	.....	77	25.0	91	W	.....	.....	0–1	.....	1	.....	SW	.....	.....	.....	.....	Clear	
New Hampshire, Port Royal, S. C.	30.15†	765.8†	.....	.....	81	27.2	78	W	3	1.3	.....	.....	5	.....	WSW	0	0	.....	.....	Fair	
Onward, Callao, Peru	30.12†	765.0†	.....	.....	63	17.2	83	SSE	.....	.....	3	.....	8	.....	.....	.....	.....	Long	W	Misty	
Passaic, Washington, D. C.	30.00‡	762.0‡	.....	.....	72	22.2	95	Calm	.....	.....	0	.....	10	.....	SE	0	0	.....	.....	Cloudy	
Palos, Tientsin, China	29.96	761.0	80	26.7	78	25.6	95	Calm	.....	.....	0	.....	10	.....	W	.....	.....	.....	.....	Overcast	
Pensacola, Mare Island, California	29.87	758.7	65	18.3	60	15.6	80	WSW	2	0.9	.....	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Plymouth. New York, N. Y.	29.96‡	761.0‡	.....	.....	72	22.2	80	WSW	.....	.....	1	.....	8	.....	N	.....	.....	.....	.....	Misty	
Ranger, Hong-Kong, China	30.05	763.3	80.5	26.9	79	26.1	91	SE	.....	.....	3	.....	10	.....	Calm	.....	.....	.....	.....	Rainy	
Rio Bravo, Brownsville, Texas	29.90	759.4	76	24.4	76	24.4	95	SE	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md.	29.92‡	760.0‡	.....	.....	75	23.9	86	S	.....	.....	1	.....	10	.....	S	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa.	29.94	760.5	72	22.2	71	21.7	95	SE	4	1.8	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Supply, Havre, France	29.89	759.2	68	20.0	67	19.4	74	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Overcast	
Swatara, Boston, Mass.	29.93‡	760.2‡	.....	.....	68	20.0	84	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Hazy	
Trenton, Cherbourg, France	29.77‡	756.1‡	.....	.....	65	18.3	84	SSW	.....	.....	3–5	.....	10	.....	S;W	0.2	5.	.....	.....	Cloudy	
Tuscarora. Acapulco, Mexico	29.66	753 4	76	24.4	76	24.4	95	NE	.....	.....	4–5	.....	8	.....	Calm	2.1	53.	.....	.....	Cloudy	
Vandalia, N. 40° 40′, E. 13° 48′	29.96‡	761.0‡	.....	.....	80	26.7	78	NW	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear	
Wabash, Boston, Mass.	29.95‡	760.7‡	.....	.....	70	21.1	70	W	4	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Wyoming. N. 40° 06′, W. 71° 36′	29.95†	760.7†	.....	.....	72	22.2	100	WSW	.....	.....	0–1	.....	7	.....	.....	.....	.....	Smooth	.....	D. clouds	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From -	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 26′, W. 174° 14′		30.24*	768.1*	69	20.6	100	SW			4		5		SW	3 hours	Light	SW	Misty	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 42° 10′, W. 124° 50′		29.89†	759.2†				NW			6		Haze				Heavy	NW	Hazy	Capt. Seabury.
S. S. City of Peking, N. 29° 52′, E. 128° 30′		29.92†	760.0†	81	27.2	87	NW	30	13.4			4		NW	Mod'ate	Smooth		D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 38° 46′, W. 123° 29′		29.80†	756.9†	54	12.2	??	SE			2		10				Heavy	NW	Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.79*	756.7*	79	26.1		Calm			0				N	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 47° 56′, W. 41° 33′		29.88†	758.9†	59	15.0	??	Var.			5		5		NNW	Blank	Mod'ate	NW	Squally	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 41° 12′, E. 173° 07′		29.99*	761.7*	68	20.0	95	WSW			3		Fog		WSW		Smooth	W	Fog and mist	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		29.56*	750.8*	81	27.2	91	WSW			5		6		ENE	Heavy			Clearing	Captain Sargent.
S. S. Ohio. Philadelphia, Pa		29.95	760.7	73	22.8	81	SSW			1		8		Calm	0			Clear?	Captain Morrison.
S. S. Pennsylvania, N. 44° 05′, W. 41° 31′		30.01†	762.2†	70	21.1	90	NNW			3		4		NNW	0		NNW	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 42° 33′ W. 48° 06′		30.12*	765.0*				NE	5	2.2			4		NE		Mod'ate	WSW	D clouds	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Bishop and Clerk Light-house		29.88	758.9	72	22.2	89	Calm	0	0		2c	Sm'e	SW		0	Smooth		Smoky	Capt. James Jorgensen.
Schoone: Florence, Godhavn, Greenland		29.86*	758.4*	52.0	11.1	47	ENE			3.5		10ks						Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper columns.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 14, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU, mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours																			
Algiers			30.00	762.1	87.8	31.0	62	NNW			1		0			0	0	Clear	Kesxuche.
La Calle			29.92	760 0	91.8	33.2	88	W			1		0			0	0	Clear	Tourillere.
Tunis			29.95	760.8	81.9	27.7	74	NE			5		2			0	0	Fair	Foufrede.
Sfax			29.99	761.7															Jacques.
Saida			30.06	763.5	89.6	32.0		SE			3		0			0	0	Clear	Gau.
Tebessa			30.09	764 3	93 2	34.0	36	NNW			5		0			0	0	Clear	Herbin.
Geriville			29.97	761.3	95.0	35.0		SSW			2		2			0	0	Fair	Watrin.
Laghouat			30.15	765 7	93.7	34.3	26	Calm			0		0			0	0	Clear	Brugniaux.
Biskra			30.07	763.6	101.1	38.4	18	NE			1		1			0	0	Very fair	Bertrand.
			30.01	762.2	104.9	40.5	24	SE			1		1			0	0	Very fair	Chauvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 899? meters, or 2,919.9? feet; Tebessa, 1.088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.26	743.3	29.78	756.4	82.9	28.3	43	SW			3	2				0	0		Prof. Ivan Stozu.
Cracow	28.96	735.5	29.68	753 8	82.0	27.8	65	W			1	9				0.032	0.81		Prof. Dr. Karlinski.
Eperies	28.91	734.3	29.74	755.4	76.6	24 8	69	Calm			0	6s;fg			N	0	0		Julius Mikolik.
Gratz	28.55	725.1	29.73	755.2	75.9	24.4	74	SSE			1	10				0.055	1.40		Andreas Rospini.
Hermannstadt	28.46	722.9	29.80	757 0	79.0	26.1	50	SSW			3	2				0	0		Prof. Reissenberg
Kremsmünster	28.38	720.8	29.66	753.3	70.5	21.4	78	WNW			2	10				0.335	8.5		Prof. C. Wagner
Lemberg	28.79	731.2	29.72	754.8	77.5	25 3	66	SW			1	7				1.303	33.1		Dr. T. Stanecki.
Pola	29.76	755.8	29.86	758.5	81.1	27.3	66	S			1	Scs				0	0		I.R.Hydrographic Office
Szathmar	29.39	746.6	29.83	757.7	82.4	28.0	57	SW			3	8				0.008	0.2		Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.76	755.8	29.86	758.4	79.2	26 2	71	N			1	2				0	0	½ cloudy	P. Busin.
Vienna	29.04	737.6	29.72	754.9	76.3	24.6	67	SSE			1	10				0.039	1.0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.13	714.6	29.59	751.6	64.2	17.9	89	SW			7	10				0.260	6.6		Prof. M. Passau.
Brussels	29.25	743.0	29.44	747.8	70.3	21.3	68	WSW			7	7			WSW	0.012	0.30		Royal Observatory
Furnes	29.46	748 2	29.48	748.8	69.4	20.8	73	SW			9	6				0.004	0.1		M. E. de Cae.
Maeseyck	29.31	744.5	29.44	747.7	72.7	22.6	63	WSW			8	7				0.335	8.5		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.26	743.2	29.36	745.7	62.2	16.8	.....	NW	15	6.7	.....	.....	4	.....	.....	0.010	0.25	Blue sky.....	W. Boswell.
Ardrossan	29.36	745.7	29.38	746.2	60	15.6	.....	WSW	.....	.....	2	.....	3	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	29.46	748 3	62.0	16.7	.....	WNW	5	2.2	.....	.....	8	.....	.....	.....	.....	D. clouds....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.41	747.0	61.2	16.2	.....	W	19	8.5	.....	.....	10	.....	.....	.....	.....	Overcast....	John Hartnup.
Birr Castle, (Parsonstown)	29.32	744.7	29.51	749 5	66.4	19.1	.....	WNW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.00	736.6	29.40	746.7	62.0	16.7	.....	NW	.....	.....	4	.....	5	.....	.....	1.22	31.0	D. clouds....	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762 7	85	29.4	.....	E	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.38	746.2	70.0	21.1	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Showery.....	H. Todd. [H.C.
Cardington	.....	.....	29.41	747.0	66.0	18.9	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Showery.....	John McLaren.
Chatham, School M. E.	29.26	743.2	29.38	746.2	71.2	21.8	.....	W	.....	.....	5	.....	8	.....	.....	.....	.....	Overcast.....	Q.M. Sergt. Magawran, R. E., for
Dartmoor	28.20	716.3	29.55	750.6	61.0	16.1	.....	NW	.....	.....	4	.....	7	.....	.....	.....	.....	Showery.....	Alexander Watt. [Col. Mar-
Donaghadee	29.31	744.5	29.34	745.2	64	17.8	.....	N	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	J. Mac Gowan. [tin, R. E.
Dover	29.43	747.5	29.46	748.3	66	18.9	.....	W	.....	.....	5	.....	4	.....	.....	.....	.....	½ clouded....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.38	746.2	63.5	17.5	.....	NW	0.6	0.3	.....	.....	9	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Falmouth, Observatory	29.39	746.5	29.61	752.1	67.9	19.9	.....	W	.....	.....	5	.....	3	.....	.....	.....	.....	Squally.....	The Staff.
Fort Napier, (Natal)	27.84	707.1	30.12	765.0	65.2	18.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.89	756.9	30.03	762.7	82	27.8	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.47	748.5	64	17.8	.....	WSW	.....	.....	3	.....	8	.....	.....	.....	.....	Gloomy.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.92	760.0	29.97	761.2	77.8	25.4	.....	W	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.17	740.9	29.38	746.2	67.3	19.6	.....	W	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.33	745.0	29.34	745.2	62	16.7	.....	WNW	.....	.....	4	.....	7	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.26	743.2	29.43	747.5	69.6	20.9	.....	W	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	29.39	746.5	29.61	752.1	66.5	19.2	.....	SW	.....	.....	5	.....	3	.....	.....	Blank	Blank	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.69	754.1	70	21.1	.....	NW	.....	.....	4	.....	3c	.....	.....	0.05	1.3	Fine	M. P. Moyle.
Holyhead	29.43	747.5	29.48	748.8	63	17.2	.....	WNW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds....	John Tilston.
Jersey	29.37	746.0	29.66	753 4	65.1	18.4	.....	W	.....	.....	6	.....	10	.....	.....	Blank	Blank	Threatening	J. Fisher.
Kew, Observatory	.....	.....	29.44	747.8	69.5	20.8	.....	W	20	8.9	.....	.....	9	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.45	748.0	29.47	748.5	63	17.2	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	.....	.....	29.47	748.5	62.5	16.9	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.87	758.7	29.94	760 5	86	30.0	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.28	743.7	29.37	746.0	58	14.4	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.97	761.2	85.0	29.4	.....	SE	.....	.....	2	.....	5	.....	.....	Blank	Blank	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.23	742.4	29.42	747.3	66.1	18.9	.....	NW	.....	.....	2	.....	9k;d	.....	NW	1.082	27.48	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.89	733.8	29.39	746.5	70.2	21.2	.....	WNW	.....	.....	5	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.36	745.7	70	21.1	.....	W	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	H.E. Bellamy.
Plymouth	29.48	748.8	29.56	750.8	69.2	20.7	.....	WSW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds....	John Merrifield.
Roche's Point	29.50	749.3	29.54	750.3	66	18.9	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.36	745.7	29.51	749.5	63	17.2	.....	WNW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.38	746.2	59.3	15.2	.....	NW	15	6.7	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.82	757.4	85.4	29.7	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.14	740.1	29.41	747.0	63.4	17.4	.....	NW	.....	.....	1	.....	10	.....	.....	0.17	4.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.36	745.7	29.38	746.2	69.3	20.7	67	SW	.....	.....	1	.....	5	.....	.....	0.190	4.83	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.02	737.1	29.42	747.3	63.9	17.7	.....	NE	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds....	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lewis C., (Hebr.)	29.35	745.5	29.38	746.2	59	15.0	.....	ENE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.38	746.2	64	17.8	.....	N	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds....	John Trotter.
Truro, Royal Institution	.....	.....	29.64	752.8	70	21.1	.....	W	.....	.....	7	.....	6	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	29.55	750.6	65.6	18.7	.....	SW	21	9.4	.....	.....	8	.....	.....	Blank	Blank	D. clouds....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.53	750.0	53.0	11.7	87	NW	.....	.....	3	.....	10kn	.....	.....	0.15	3.8	Hazy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.90	759.4	30.09	764.3	71.7	22.1	82	SE	10.0	4.5	.....	1	8	.....	.....	0	0	Cloudy.	C. Meldrum.
Melbourne, Observatory	29.76	755.9	29.86	758.4	55.0	12.8	60	NNE	20	8.9	.....	.....	1	.....	.....	0	0	Very fine....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	
S. S. Algeria,	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 54° 35′, W. 51° 50′	5	Conf'd	Foggy ..... Capt. Alex. Wilson.
Barque Celeste	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	Capt. W. R. Cato
S. S. Hibernia	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	Capt. C. C. Prehn.
Ship Mikado	.....	.....	Capt. J. Smith. [R.
S. S. Naid	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	
Barque Sorata	.....	.....	
Schooner Traveller, N. 40° 45′, W. 71° 5′	1	.....	D. clouds... Capt. Alex. Simpson.
Barque Virginia	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	Capt. H. Longley.
.....	.....	.....	
.....	.....	.....	
.....	.....	.....	
.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.22	666.0	.....	.....	65.8	18 8	93	SE	.....	.....	1	p	2ks	.....	.....	Inap.	Inap.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.27	743.4	29.32	744.6	63.9	17.7	77	SSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	
Fanöe	29.08	738.5	29.10	739.0	59.7	15.4	97	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	
Godthaab, (Greenland)	29.73	755.2	29.78	756.3	44.6	7.0	96	S	.....	.....	7	.....	10	.....	.....	.....	.....	Raining.....	
Stykkisholm, (Iceland)	29.79	756.6	29.83	757.7	48.7	9.3	76	E	.....	.....	2	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.53	750.0	29.56	750.9	52.2	11.2	60	N	.....	.....	2	.....	7	.....	.....	.....	.....	.....	
Vestervig	29.00	736.7	29.17	741.0	60.4	15.8	96	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.17	741.0	29.72	755.0	72.3	22.4	81	S	.....	.....	4	.....	5	S	S	0.425	10.80	Cloudy.....	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.85	758 1	29.93	760.1	83.3	28.5	62	SSW	.....	.....	1	.....	.....	.....	W	0	0	Light clouds	M. Giraud, Director.
Bar-sur-Seine	29.18	741.2	29.72	754.8	68.5	20.3	80	S	.....	.....	1	.....	10	.....	WSW	0.728	18 5	Covered	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.34	745.2	29.61	752.0	73.8	23.2	64	W	.....	.....	4	.....	5	.....	W	0.217	5.50	Cloudy	Frere Eugene Marie, Director.
Besançon	28.98	736.0	29.84	758.0	66.4	19.1	86	SW	.....	.....	8	.....	10	.....	.....	0.178	4.4	Covered	Normal School
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.28	743.6	29.82	757.3	66.2	19	94	SW	.....	.....	4	.....	10n	.....	SW	0.571	14.5	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.45	747.9	29.69	754.1	69.4	20.8	76	W	.....	.....	5	.....	7	.....	W	0.246	6.25	Squally.....	The Staff.
Carcassonne, Normal School	29.52	749.9	29.91	759.8	86.7	30.4	63	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear.....	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.08	738.6	29.62	752.3	72.1	22.3	92	W	.....	.....	4	.....	4	.....	E	0.520	13.2	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch	29.31	744.5	29.61	752.2	70.9	21.6	77	SW	.....	.....	6	.....	10	NE	NE	0.276	7.0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.54	724.9	29.83	757.7	75.7	24.3	61	SW	.....	.....	2	.....	.....	.....	SW	0	0	.....	Allnard, Director.
Commercy, Normal School	28.84	732.5	29.69	754.0	64.4	18	90	WSW	.....	.....	4	.....	5kn	.....	WSW	0.858	21.8	Cloudy.....	Dr. Coulet, Director.
Commune de Gréasque*	28.87	733.2	30.01	762.2	85.6	29.8	51	W	.....	.....	2	.....	2	.....	W	0	0	¼ Covered...	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. Schoo	29.62	752.4	29.83	757.7	68.0	20.0	96	NW	.....	.....	4	.....	5	.....	W	0.787	20.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.40	746.7	29.70	754.3	71.4	21.9	78	W	.....	.....	6	.....	5	.....	W	0.285	7 25	Cloudy.....	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.98	736.0	29.86	758.5	67.1	19.5	87	SW	.....	.....	2	.....	10	.....	E	Inap.	Inap.	Raining.....	Baudry, Director.
Lorient, Naval Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	71.6	22	63	NW	.....	.....	4	.....	10	.....	.....	0	0	Covered.....	M. Galzin, Director
Mirecourt, Normal School	28.84	727.5	29.65	753.1	64.6	18.1	92	SSW	.....	.....	4	.....	10n	.....	SW	0.39	10.	Raining	M. Barbier, Director.
Nismes, Normal School	29.87	758.6	30.06	763.4	88.2	31.2	57	S	.....	.....	2	.....	2	.....	S	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.87	733.2	29.87	758.8	84.6	29.2	60	S	.....	.....	1	.....	n	N	S	0	0	.....	M. Cautier.
Puy de Dome (Summit)	25.07	636.7	.....	.....	52.7	11.5	100	WSW	.....	.....	6	.....	.....	.....	.....	.....	.....	Raining.....	Allnard, Director.
Rochefort, Naval Obs'y	29.82	757.4	29.85	758.2	68.0	20.0	92	SW	.....	.....	8	.....	.....	.....	SW	0.24	6.	Foggy	M. Giguel, Director.
Rouen, Normal School	29.53	750.1	29.61	752.2	71.8	22.1	66	W	.....	.....	4	.....	10	.....	W	0.345	8.8	Covered	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.67	753.7	70.2	21.2	65	WSW	.....	.....	4	.....	1	.....	WSW	0.260	6.60	Clear.....	M. H. Hercouet.
Tarbes, Normal School	29.09	736 6	30.02	762.4	86.0	30	40	WSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche, Normal School	29.19	741.4	29.88	759 0	72.5	22.5	78	NE	.....	.....	1	.....	5	.....	NW	0	0	Cloudy.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.90	759.4	29.93	760.1	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchès.
Lyons	.....	.....	29.90	759.5	76.5	24.7	54	.....	.....	.....	.....	.....	9	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.92	759.9	78.4	25.8	73	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Rainy	The Staff.
Mont-Louis	24.96	634.0	30.28	769.0	73.4	23.0	42	SSE	9.3	4.17	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.92	760.0	78.1	25.6	85	S	.....	.....	4	.....	3	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.34	745.3	29.62	752.3	72.7	22.6	71	WSW	.....	.....	4	.....	6	.....	WSW	0.358	9.1	Light rain...	Marié Davy, Director
Perpignan	.....	.....	29.93	760.2	81.3	27.4	69	SE	3.7	1.67	.....	.....	1	.....	NW	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.2	.....	.....	64.0	17.8	.....	W	.....	.....	1	.....	2	.....	.....	0	0	Clear.	Gen'l de Nansou y
Saint Maur, (near Paris)	29.46	748 2	29.62	752.4	75.4	24.1	66	SW	.....	.....	4	.....	6	.....	W	0.701	17.8	Heavy showers..	E. Renou.
Toulouse, Observatory	29.28	743.8	30.01	762.2	82.6	28.1	42	WNW	.....	.....	2–5	.....	1	.....	.....	0	0	.....	The Staff.
Tours	29.61	752.1	29.81	757.1	70.5	21.4	72	SW	.....	.....	2	.....	8	.....	WSW	0.657	16.7	.....	C. Marquet.
Versailles, (near Paris)	.....	.....	29.65	753.1	72.0	22.2	69	W	.....	.....	2	.....	9	.....	.....	0.437	11.10	Almost cov'd	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.79	756.6	29.82	757.3	78.1	25.6	95	E	7.8	3.5	.....	3ks?	.....	.....	.....	0	0	Fair	Marc Decheyrens, S.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 398 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.74	730.0	29.57	751.1	67.1	19.5	70	SW			2		6	SW		0.16	4	Raining	Prof. Dr. Hoh.
Berlin	29.30	744.1	29.46	748.3	66.7	19.3	83	S			2		10			0.110	2.8	Raining	Prof. Arndt.
Breslau	29.13	739.9	29.65	753.2	76.1	24.5	51	SSW			4		10					Raining	Royal University Obs'y
Carlsruhe	29.21	741.9	29.62	752.3	64.8	18.2	90	SW			7		10			0.059	1.5	Raining	Albert Senz.
Cassel	28.88	733.5	29.47	748.6	69.4	20.8	79	WNW			5		7	W				Thunder-storm	Dr. H. Möhl.
Crefeld	29.21	741.9	29.37	745.9	76.1	24.5	55	SW			6		6k			0	0		Director Lose.
Emden	29.10	739.2	29.14	740.2	62.8	17.1	98	W			6		8			0.622	15.8	Lightning	Prof. Prestel.
Frankfort on the Main	29.24	742.7	29.59	751.5	66.7	19.3		SW			3		10			0.146	3.7		Physical Society.
Friedrichshafen	28.39	721.2	29.78	756.4	66.6	19.2	82	SW			6		10	SW		0.413	10.5		M. Wilhelm.
Hamburg	29.21	741.8	29.27	743.5	62.1	16.7	99	SW			7		10			0.248	6.3	Squally	Captain F. Hegemann.
Kiel	29.20	741.7	29.22	742.2	61.7	16.5	92	SE			4		10			0.473	12.02		Prof. G. Karsten.
Königsberg, (Prussia)	29.50	749.2	29.58	751 2	71.8	22 1	54	W			2		4			0.031	0.8		Prof. E. Luther.
Köslin			29.52	749.8	68.9	20.5		SW			4		4			0	0		H. Müller.
Leipsic, Observatory	29.11	739.4	29.52	749.7	67.3	19.6	75	SSW			5		10	SW		0.004	0.1	Sprinkling	Prof. Bruhns.
Memel, Naval School	29.55	750.5	29.60	751.7	69.1	20.6	64	SW			3		7c;cs						Reinbrecht and Skalweit.
Neufahrwasser	29.54	750.3	29.56	750.7	73.0	22.8	60	SSW			3		10			0	0		A. Lothes.
Posen	29.32	744.7	29.59	751.6	77.0	25.0	51	SW			5		9			0.150	3.8		Dr. Magener.
Strassburg (in Alsace)	29.16	740.7	29.69	754.2	64.8	18.2	94	SSW			4		10	SW		0.092	2.32	Raining	Astronomical Observatory.
Stattgart	28.74	730.0	29.65	753.1	65.3	18.5	80	W					10			0.236	6.0	Rainy	Prof. Schoder.
Treves, (Trier)	28.95	735.2	29.46	748.3	67.1	19.5	84	SW			8		10			0.237	6.02		Prof. Flesch.
Weissenburg, (Bavaria)	28.23	717.0	29.67	753.6	61.9	16.6	89	SSW	8.9	4.0			10		SW	0.213	5.4	Raining	Dr. Von Bebber.
Wustrow, Naval School	29.34	745.2	29.38	746.2	64.2	17.9	87	S			5		10			0.016	0.4		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.52	749.8	29.89	759 2	86.9	30.5		NE			2.0		k					Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Deesa	29.20	741.7	29.67	753.6	84.7	29.3	83	W					9	S	W	0.14	3.6	Misty	
Bombay	29.69	754.2	29.73	755.1	79.9	26.6	96	WNW	7	3.1			10		W	0.46	11.7	Overcast	
Poona	27.76	705.2	29.78	756.3	74.1	23.4	91	W					10		W	0.27	6.9	Overcast	
Lahore	28.87	733.3	29.58	751.8	88.1	31.2	73	NE	2.9	1.3			2			0	0	D. clouds	
Belgaum	27.25	692.2	29.80	757.0	71.9	22.2	94	W	20	8.9			10		W	0.22	5.6	Misty	
Bangalore																			
Roorkee	28.74	730 0	29.63	752.6	82.2	27.9	83	E	4.1	1.8			8			0	0		
Agra	29.07	738.4	29.63	752.5	85.7	29.8	76	Calm					6		E	0	0		
Trichinopoly																			
Nagpur	28.59	726.2	29.63	752.6	78.6	25.9	92	Calm	4.4	2.0			9		E	0.45	11.4	Raining	
Madras																			
Lucknow																			
Allahabad	29.27	743.4	29.57	751 2	87.9	31.1	76	E	3.6	1.6			1			0.38	9.6	D. clouds	
Patna	29.46	748.2	29.64	752.7	87.0	30.6	76	E	2.1	0.9			4	E	E	0	0	D. clouds	
Hazaribagh	27.63	701.8	29.63	752.6	77.3	25.2	88	ENE	9.3	4.2			10		E	0.31	7.9	Raining	
Cuttack	29.59	751.5	29.67	753.6	80.0	26.7	82	SSW	1.5	0.7			6			0.18	4.6	D. clouds	
Calcutta (Alipore)	29.66	753.3	29.68	753.9	80.5	26.9	91	SE	8.0	3.6			10	S	S	0	0	Overcast	
Goalpara	29.37	746.0	29.76	756.0	76.7	24.8	91	SE	4.2	1.9			10			0.29	7.4	Raining	
Chittagong	29.68	753.9	29.77	756.2	78.9	26.1	91	E	6.1	2.7			10			0	0	Overcast	
Sibsagar	29.41	746.9	29.74	755.4	83.8	28.8	76	ENE	3.0	1.3			10	NE	NE	0.82	20.8	D. clouds	
Rangoon																			
Jubbulpore					79.8	26.6	85	NW	2.5	1.1			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.4	29.86	758.4	77.2	25.1	75	SW	0.7	0.3	.....	.....	8	.....	.....	0.094	2.4	.....	Prof. Giovanni Clodig.
Padua	29.73	755.2	29.84	757.9	81.7	27.6	62	W	7.4	3.3	.....	.....	7	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.69	754 0	29.87	758.6	83.8	28 8	48	W	2.5	1.1	.....	.....	5	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.57	725.7	29.82	757.4	80.2	26.8	56	W	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.34	745.3	29.84	757.8	83.7	28.7	49	NW	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28 96	735.5	29.82	757 5	80.2	26 8	57	ESE	2.5	1.1	.....	.....	6	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.98	710.7	29.80	756 9	77.0	25.0	58	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.67	753.5	29.88	758.9	77.2	25.1	79	SW	.....	.....	6	.....	8	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.75	755.7	29.92	759.9	77.7	25.4	67	SE	.....	.....	4	.....	10	S	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.54	750.4	29.85	758.1	81.7	27.6	43	SSW	.....	.....	8	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.68	753.9	29.93	760.1	84 2	29.0	47	W	.....	.....	4	.....	9	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.82	757 4	29.90	759.4	80.8	27.1	68	WNW	5.6	2.5	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.83	757.6	29.87	758.8	86.0	30.0	43	SW	.....	.....	.....	.....	3	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.41	721.7	29.89	759.3	79.9	26.6	43	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.79	756.6	29.96	761.9	84.6	29.2	45	WSW	9.4	4.2	.....	.....	9	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.80	757.0	30.00	761 9	81.5	27.5	61	SSW	.....	.....	4	.....	4	SW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.69	754.2	29.94	760.4	86.4	30.2	32	SSE	15.4	6.9	.....	.....	3	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.77	756.1	29.95	760 8	82.6	28.1	63	SE	.....	.....	2	.....	4	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.08	738.7	29.92	759 9	87.8	31.0	61	SW	1.8	0.8	.....	.....	5	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.76	755.8	30.00	762 0	78.4	25.8	64	NE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.90	759.5	29.97	761.3	81.5	27.5	58	E	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.45	748.0	30.00	762.1	81.1	27.3	65	SSW	7.4	3.3	.....	.....	4	W	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.63	752.6	29.82	757.4	76.2	24.6	85	NE	2.6	1.2	.....	.....	1ck	.....	.....	0	0	Fair	
Tokei (Yeddo) Observatory	29.82	757.4	29.88	758.9	71.9	22.2	88	ENE	5.8	2 6	.....	.....	10s;ck	.....	.....	0	0	Cloudy	I. Arai, Director.
Tokei (Yeddo) University	29.78	756.4	29.87	758.8	71.1	21.7	86	E	5	2.2	.....	9cs	.....	E	.....	0	0	Cloudy	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	65.3	18.5	95	E	1.8	0.8	.....	0	10n	.....	SE	0	0	Covered	L. Castillo, A. E.
Guadalajara	24.99	634.8	29.91	759.8	61.2	16.2	87	SE	1.8	0.8	.....	0	10	.....	E	0.05	1.2	Covered	Prof. L. Perez.
Guanajuato	23.64	6 0.7	29.78	756.4	64.0	17.8	76	ENE	.....	.....	.....	9	0	.....	.....	0	0	Very cloudy	Prof. V. Fernandez
Leon	24.36	618.8	29.86	758.3	65.8	18.8	73	NNW	0.9	0.4	.....	6c	1k	NE	.....	0	0	Cloudy	Prof. M. Leal.
Mexico	23.04	585.3	30.01	762.2	58.6	14.8	92	Calm	0	0	.....	0	10n	.....	.....	0.43	10.7	Raining	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.1	17.3	76	N	1.8	0.8	.....	2c	3ks	.....	E	0	0	½ cloudy	M. V. de Leon, M. E
Puebla	23.30	591.8	29.89	759.2	58.8	14.9	91	SE	2.7	1.2	.....	0	10k	.....	S	1.46	37.1	Raining	Prof. B. Gonzalez.
Tlacotalpam	29.85	758.1	29.86	758.4	76.1	24.5	91	S	5.1	2.3	.....	10ck	0	.....	.....	0	0	Dark	Prof. F. R. Bayly.
San Luis Potosi	24 22	614.4	30.01	762.3	61.0	16.1	32	E	3.1	1.4	.....	0	10	.....	E	0 01	0.3	Covered	G. Barroeta, M. D.
Vera-Cruz	29.85	758.3	29.88	759.0	78.8	26.0	83	Calm	0	0	.....	8ck	6sk	.....	N	0 36	9.2	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	NNE	5.1	2.3	.....	8	0	.....	E?	0	0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.24	590.4	29.97	761.4	58.5	14.7	86	ESE	0.7	0.3	.....	0	10	.....	S	1.40	35.5	Covered	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.30	718.7	29.91	759.9	77.7	25.4	81	Calm	0	0	.....	0	10	.....	SW	1.61	40.9	Covered	R. Banda, C. E.
San Juan E. Michapam	29.66	753.4	29.81	757.1	77.7	25.4	.....	Calm	0	0	.....	0	8k	.....	SW	0.74	18.7	Cloudy	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.3 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.40	746.7	29.40	746.7	68.7	20.4	.....	WSW	.....	.....	6	.....	.....	.....	.....	0.126	3.2	.....	
Groningen	.....	.....	.....	.....	65.7	18.7	.....	SW	.....	.....	5	.....	.....	.....	.....	0.346	8.8	.....	
Helder	29.22	742.2	29.22	742.2	63.7	17.6	.....	SW	.....	.....	5	.....	.....	.....	.....	0.307	7.8	.....	
Hellevoetsluis	29.34	745.3	29.34	745.3	68.0	20.0	83	WSW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.28	743.6	29.32	744.8	70.9	21.6	70	SW	.....	.....	7	.....	8	.....	.....	0.209	5.3	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.09	738.8	29.14	740.2	63.3	17.4	67	S	6.5	2.9	.....	.....	3	.....	.....	0.102	2.6	Light rain...	
Bröno	29.13	739.9	29.17	740.9	59.4	15.2	78	NNE	9	4	.....	.....	8	.....	.....	.....	.....	Light rain...	
Christiania	29.04	737.6	29.18	741.1	68.2	20.1	57	SSW	13	6	.....	.....	7	.....	.....	0.693	17.6	.....	
Tromsö	29.33	744.9	29.37	746.0	51.8	11.0	59	NNE	27	12	.....	.....	1	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Angra, (Azores)	30.00	762.0	30.15	766.7	77.0	25.0	80	W	13.0	5.8	.....	.....	2	.....	.....	0.079	2.0	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.7	30.05	763.3	86.7	30.4	35	WNW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.11	764.8	30.20	767.0	78 6	25.9	64	SW	8.1	3.6	.....	.....	3	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.78	756.4	30.13	765.2	78.6	25.9	52	NNE	12.5	5.6	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.14	765.6	30.17	766.3	77.7	25.4	85	SW	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Sea or swell. Height scale 0-9	Sea or swell. Direction from—	Weather	Observer
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44′, W. 25° 41′	.....	.....	30.18	766.5	77.5	25.3	.....	NW	.....	.....	3	.....	5	.....	NW	3	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 23° 39′, E. 35° 52′	.....	.....	30.08	764.0	71.2	21.8	.....	SSW	.....	.....	3	.....	4	.....	SW	3	.....	Blue sky	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.07	763.8	60.8	16.0	.....	WSW	.....	.....	2	.....	7	.....	WSW	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 16° 07′, W. 23° 0′	.....	.....	29.91	759.7	81.5	27.5	.....	NE	.....	.....	3	.....	10	.....	.....	3	NE	Raining	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 05′	.....	.....	30.00	762.1	72.9	22.7	.....	W	.....	.....	2	.....	4	.....	W	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Warsaw	29.24	742.8	29.64	752.9	75.7	24.3	54	S	11	5	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.22	742.1	29.62	752.3	68.9	20.5	70	S	7	3	.....	.....	10	.....	.....	.....	.....	Thunder-stor m..	Astronomical Obs.
Dorpat	29.29	743.9	29.52	749.8	69.3	20.7	61	SW	7	3	.....	.....	9kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.50	749.2	29.51	749.6	65.1	18.4	66	S	20	9	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.13	739.8	29.72	754.8	82.6	28.1	37	SSW	9	4	.....	.....	6ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.82	757.4	29.89	759.2	86.0	30.0	38	WSW	4	2	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.89	759.3	29.91	759.8	80.6	27.0	43	NNE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.24	742.8	29.76	755 9	76.5	24.7	50	S	7	3	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.60	751.9	29.80	756.8	85.1	29.5	38	ESE	4	2	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.48	748.9	29.50	749.4	56.1	13.4	76	SE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.39	721.2	29.72	755.0	82.2	27.9	44	N	31	14	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.89	759.2	29.81	757.1	78.8	26.0	42	NE	7	3	.....	.....	7s	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.58	751.3	29.83	757.6	81.7	27.6	31	SW	2	1	.....	.....	5	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[ks	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.89	733.7	29.78	756.5	77.7	25.4	38	WSW	13	6	.....	.....	5c;ck;k;	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.50	749.4	29.72	754.9	91.6	33.1	25	NNE	13	6	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.13	714.6	29.72	754 9	86.4	30.2	56	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.28	743 6	29.77	756.2	74.3	23.5	35	W	0	0	.....	.....	3	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.41	746.9	29.69	754.0	65.8	18.8	63	NW	2	1	.....	.....	7	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.69	754.1	29.83	757.7	78.3	25.7	97	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

STATIONS	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Barcelona, Met. Obs'y	29.80	756.9	29.90	759.4	85.6	29.8	46	SW	1.6	0.72	.....	.....	3ck; k	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.90	759.5	29.96	760.9	89.1	31.7	47	SE	3.3	1.48	.....	2	0	NE	.....	0	0	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.7	.....	.....	80.6	27.0	53	SW	9.6	4.27	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez
Madrid, Royal Observatory	27.82	706.5	29.88	758.9	94 6	34.8	27	SW	13.4	6.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.7	104.0	40.0	37	SW	4.2	1.86	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.12	739.7	30.00	762.0	67.5	19.6	95	SW	11.6	5.19	.....	.....	10	.....	.....	0.020	0.5	Misty	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.75	755.6	29.81	757.3	81.0	27.2	77	E	9.2	4.1	.....	3c;cs	0	S	.....	0.020	0.5	Fair	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	761.9	30.09	764.4	78.4	25.8	66	W	11.4	5.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.4	30.03	762.7	80.6	27.0	88	SE	0	0	.....	2c	3k	SE	SE	0	0	D. clouds	Leonardo do Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.35	745 6	29.39	746.6	59.0	15.0	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	
Umea	29.26	743.3	29 32	744.6	57.2	14.0	100	SSE	.....	.....	2	.....	10	.....	.....	0.417	10.6	.....	
Hernosand	29.20	741 7	29.25	743 0	65.7	18.7	70	S	.....	.....	4	.....	3	.....	.....	0.157	4.0	Raining	
Stockholm	29.26	741.7	29.38	746.2	68.2	20.1	59	SSW	.....	.....	6	.....	5	.....	.....	0.098	2.5	.....	
Wisby	29.38	746.3	29.44	747.8	69.1	20.6	64	WSW	.....	.....	7	.....	3	.....	.....	0.303	7.7	.....	
Sub-Series.																			
Upsala	29.26	743.2	29.34	745.1	67.5	19.7	57	SSW	13.2	5.9	.....	.....	9	WSW	SW	0.197	5.00	.....	Nils Ekholm.

Note.—The originals give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.46	722.9	29 82	757.5	76.6	24.8	46	SSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	The Observatory.
Zurich	28.24	717.4	29.85	758.1	64.4	18.0	91	W	.....	.....	4	.....	9	.....	.....	0.567	14.4	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.9 mm.; Thermometer, +2.9 cent.; Relative Humidity, —9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.92	759.9	74.7	23.7	59	NE	20	9.0	.....	.....	2	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.8	79.5	26.4	.....	W	.....	.....	1	.....	2	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.63	752.6	29.74	755.4	86.9	30.5	57	W	.....	.....	2	.....	1k	.....	E	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.92	760.0	29.99	761.7	64.9	18.3	89	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.56	750.8	29.85	758.2	74	23.3	.....	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.94	760 5	30.00	762 0	63	17.2	89	SW	1	0.4	.....	0	0	.....	.....	0.02	0.5	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.99	761.7	30.03	762.7	68	20.0	79	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E
Cornwall, Ontario	29.66	753.4	29.84	757.9	57.8	14.3	93	SW	.....	.....	1	0	0	.....	.....	0.169	4.29	Clear	James Smith, M. A
Dalhousie, N. B	29.84	757.9	30.00	762.0	59.0	15.0	98	W	.....	.....	1	.....	.....	.....	.....	0	0	.....	H. A. Johnson.
Esquimault, B. C	29.86	758 4	29.91	759.7	53.3	11.8	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.92	760.0	29.94	760.5	66	18.9	76	SW	15	6.7	.....	0	Haze	.....	Calm	0	0	Clear	J. McWilliams.
Fredericton, N. B	29.98	761.5	30.04	763.0	62.1	16.7	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	28.88	733.5	29.68	753.9	56	13.3	87	NW	6	2.7	.....	5k	5n	NW	NW	0.140	3.56	Cloudy	James Stewart.
Granton, Ontario	28.71	729.2	29.76	755.9	69	20.6	95	S	.....	.....	1	3cs	0	.....	.....	0	0	Fair	James Grant.
*Halifax, N. S	29.90	759.4	30.03	762.7	63	17.2	84	SE	1	0.4	.....	2c	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.47	748.5	29.83	757.7	64.9	18.3	89	E	.....	.....	1	2c	0	SW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	30.07	763.8	30.10	764.5	64	17.8	83	SW	.....	.....	1	0	10	.....	.....	0	0	Cloudy	E. Weedon.
*Kingston, Ontario	29.56	750.8	29.88	758.9	72	22.2	80	S	13	5.8	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.03	762.7	30.06	763.5	62.0	16.7	.....	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	C. H. Rigby.
*Montreal, Quebec	29.72	754.9	29.91	759.7	67	19.4	84	SE	8	3.6	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.08	738.6	29.74	755.4	70	21.1	87	SE	11	4.9	.....	2cs	2ks	SW	SW	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.10	739.1	29.83	757.7	65.9	18.8	87	Calm	.....	.....	0	1k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.15	740.4	29.80	756.9	71	21.7	90	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	30.00	762.0	30.05	763.3	59.5	15.3	.....	S	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.18	741.2	29.79	756.7	73	22.8	89	SW	4	1.8	.....	2k	0	SW	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.62	752.3	29.93	760.2	63	17.2	89	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.37	746.0	29.81	757.2	65	18.3	81	E	6	2.7	.....	Haze	0	.....	.....	0	0	Fair	W. H. McIntyre.
St. Andrews, N. B	29.97	761.2	30.02	762.5	56	13.3	93	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.89	759.2	30.05	763 3	57	13.9	100	S	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C.E.
*Saugeen, Ontario	29.04	737.6	29.72	754.9	68	20.0	80	S	16	7.2	.....	.....	10ks	.....	SW	0	0	Cloudy	K. Stewart.
Stayner, Ontario	28.99	736.3	29.74	755.4	67	19.4	74	SE	5	2.2	.....	2ck	0	W	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.54	724.9	29.77	756.1	66.0	18.9	89	SW	6	2.7	.....	0	0	.....	.....	0.076	1.93	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.03	762.7	30.05	763.3	69	20.6	80	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.45	748.0	29.82	757.4	68	20.0	86	E	2	0.9	.....	2c	0	W	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	62.0	16.7	88	SE	.....	.....	.....	4k	4s	.....	.....	Inap.	Inap.	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.73	755.1	29.95	760.7	69	20.6	89	S	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Alpena, Michigan	29.66	738.1	29.67	753.6	65	18.3	78	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Atlantic City, New Jersey	29.91	759.7	29.92	760.0	68	20.0	94	E	10	4.5	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
Augusta, Georgia	29.78	756.4	29.96	761.0	76	24.4	91	SW	2	0.9	.....	.....	10s	.....	SW	1.09	27.7	Cloudy	
Baltimore, Maryland	29.88	758.9	29.92	760.0	72	22.2	90	SE	5	2.2	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Barnegat, New Jersey	29.92	760.0	29.95	760.7	71	21.7	90	E	12	5.4	.....	8ck	Haze	W	Calm	Inap	Inap.	Fair	
Bismarck, Dakota	28.06	712.7	29.91	759.7	58	14.4	70	NW	8	3.6	.....	0	2s	.....	NW	0	0	Clear	
Boerne, Texas	28.50	723.9	.....	.....	86	26.7	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.01	686.8	30.00	762.0	65	18.3	52	NE	1	0.4	.....	10k	Sm'e	Calm	Calm	0	0	Cloudy	
Boston, Massachusetts	29.86	758.4	30.01	762.2	74	23.3	59	W	1	0.4	.....	Haze	Haze	Calm	Calm	Inap.	Inap.	Hazy	
Brackettville, Texas	28.78	731.0	29.76	755.9	77	25.0	82	E	4	1.8	.....	0	0	.....	.....	0.22	5.6	Clear	
Breckenridge, Minnesota	28.72	729.5	29.68	753.9	59	15.0	88	W	10	4.5	.....	1ck	0	W	.....	0.37	9.4	Clear	
Brownsville, Texas	29.83	757.7	29.90	759.4	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap	Clear	
Buffalo, New York	29.14	740.1	29.80	756.9	72	22.2	76	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	88	31.1	56	Calm	.....	.....	0	5ck	5ks	W	SE	Inap.	Inap.	Cloudy	
Burlington, Vermont	29.71	754.6	29.96	761.0	66	18.9	84	S	4	1.8	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Cairo, Illinois	29.55	750.6	29.92	760.0	76	24.4	73	S	6	2.7	.....	1ck	0	W	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	83	Calm	.....	.....	0	2c	0	Calm	.....	Blank	Blank	Fair	
Camp Grant, Arizona	25 18	639 6	29.98	761.5	71	21.7	58	N	.....	.....	1	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.69	677.9	30.18	766.6	76	24.4	56	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.32	693.9	29.84	757.9	62	16.7	88	Calm	.....	.....	0	0	0	.....	.....	Inap.	Inap	Clear	
Cape Hatteras, N. Carolina	29.93	760.2	29.94	760.5	76	24.4	95	W	16	7.2	.....	.....	10s	.....	SW	1.62	41.1	Cloudy	
Cape Henry, Virginia	29.90	759.4	29.92	760.0	72	22.2	95	SE	3	1.3	.....	.....	10s	.....	SW	0.81	20.6	Cloudy	
Cape Lookout, N. Carolina	29.94	760.5	29.96	761.0	77	25.0	91	SW	24	10.7	.....	.....	10n	.....	W	0.50	12.7	Light rain	
Cape May, New Jersey	29.90	759.4	29.93	760.2	72	22.2	90	NE	10	4.5	.....	.....	10s	.....	NE	0	0	Cloudy	
Castroville, Texas	29.13	739.9	29.80	756.9	76	24.4	95	SW	2	0.9	.....	0	0	.....	.....	0.05	1.3	Clear	
Charleston, South Carolina	29.93	760.2	29.99	761.7	78	25.6	95	W	6	2.7	.....	.....	10n	.....	Calm	5.15	130.8	Heavy rain	
Cheyenne, Wyoming	24.13	612.9	30.07	763.8	47	8.3	85	NW	4	1.8	.....	0	0	.....	.....	0.04	1.0	Clear	
Chicago, Illinois	29.08	738.6	29.74	755.4	64	17.8	83	SW	10	4.5	.....	5c	0	Calm	.....	0.49	12.4	Fair	
Cincinnati Ohio	29.21	741.9	29.82	757.4	71	21.7	75	SE	2	0.9	.....	0	Sm'e	.....	SE	0	0	Smoky	
Cleveland, Ohio	29.13	739.9	29.82	757.4	68	20.0	74	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.17	715.5	29.75	755.6	75	23.9	77	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
Columbus, Ohio	29.01	736.8	29.80	756.9	72	22.2	75	S	1	0.4	.....	2c	Sm'e	Calm	Calm	0	0	Fair	
Conchо, Texas	28.04	712.2	29.67	753.6	64	17.8	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.47	748.5	29.92	760.0	71	21.7	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.18	741.2	29.79	756.7	67	19.4	79	Calm	0	0	.....	Haze	0	Calm	.....	0.94	23.9	Clear	
Denison, Texas	29.19	741.4	29.96	761.0	72	22.2	90	S	2	0.9	.....	0	2s;sm'	.....	Calm	0	0	Fair	
Denver, Colorado	24.86	631.4	30.08	764.0	57	13.9	75	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	28.95	735.3	29.77	756.1	73	22.8	67	W	.....	.....	1	5ck	Haze	W	Calm	0.26	6.6	Fair	
Detroit, Michigan	29.12	739.6	29.75	755.6	69	20.6	80	SW	11	4.9	.....	2k	5s	W	W	0	0	Fair	
Dodge City, Kansas	27.41	696.2	29.61	752.1	65	18.3	94	S	8	3.6	.....	5ck	2ks	W	NW	0.27	6.9	Fair	
Dubuque, Iowa	29.07	738.4	29.74	755.1	67	19.4	79	W	1	0.4	.....	5k	Fog	W	Calm	0.14	3.6	Cloudy	
Duluth, Minnesota	29.00	736.6	29.64	752.8	63	17.2	84	SW	8	3.6	.....	5k	0	W	.....	0.18	4.6	Fair	
Eagle Pass, Texas	29.17	740.9	29.88	758.9	76	24 4	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.95	760.7	30.02	762.5	54	12.2	93	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	81	27.2	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.12	739.6	29.80	756.9	72	22.2	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.02	737.1	29.64	752.8	62	16.7	83	SW	3	1.3	.....	2c	0	SW	.....	0.06	1.5	Clear	
Florence, Arizona	.....	.....	.....	.....	85	29.4	44	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.53	648.4	29.59	751.6	67	19.4	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.21	640.3	30.17	766.3	67	19.4	79	NW	2	0.9	.....	0	0	.....	.....	0.13	3.3	Clear	
Fort Gibson, Indian Ter	29.42	747.3	29.94	760.5	69	20.6	90	SW	2	0.9	.....	5c	Fog	W	Calm	0	0	Fair	
Fort Griffin, Texas	28.68	728.5	29.91	759.7	69	20.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.75	704.8	29.69	751.8	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.87	758 7	69	20.6	79	NE	10	4.5	.....	0	8s	.....	N	0	0	Cloudy	
Fredericksburg, Texas	28.21	716.5	29.70	754.4	74	23.3	76	SE	1	0.4	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.88	758.9	29.92	760.0	82	27.8	87	W	4	1.8	.....	2k	0	Calm	.....	0.10	2.5	Clear	
Graham, Texas	28.85	732.8	29.86	758.4	73	22.8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.09	738.9	29.70	754.4	71	21.7	80	SW	24	10.7	.....	0	5s	.....	SW	1.84	46.7	Fair	
Indianapolis, Indiana	29.10	739.1	29.84	757.9	68	20.0	74	NE	4	1.8	.....	5cs	0	Calm	.....	0.02	0.5	Fair	
Indianola, Texas	29.89	759.2	29.92	760.0	82	27.8	87	SE	1	0.4	.....	.....	10ks	.....	NE	0.01	0.3	Threatening	
Jacksboro, Texas	28.82	732.0	29.90	759.4	72	22.2	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.94	760.5	29.96	761.0	85	29.4	72	SE	5	2.2	.....	5k	0	W	.....	0.33	8.4	Fair	
Keokuk, Iowa	29.20	741.7	29.78	756.4	69	20.6	70	W	5	2.2	.....	0	5s	.....	W	0.01	0.3	Fair	
Key West, Florida	29.84	757.9	29.87	758.7	84	28.9	71	E	17	7.6	.....	0	5ks	.....	E;Calm	0.02	0.5	Fair	
Kittyhawk, North Carolina	29.88	758.9	29.90	759.4	76	24 4	100	SW	14	6.3	.....	5cs	5s	W	W	1.26	32.0	Fair	
Knoxville, Tennessee	28.96	735.6	29.92	760.0	68	20.0	95	Calm	0	0	.....	.....	Fog	.....	Calm	0.40	10.2	Dense fog	
La Crosse, Wisconsin	28.99	736.3	29.69	754.1	67	19.4	74	S	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.44	747.8	29.76	755.9	82	27.8	75	SE	3	1.3	.....	5cs	0	Calm	.....	0	0	Fair	
Lead City, Dakota	24.89	632.2	30.16	766.1	54	12.2	74	S	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Leavenworth, Kansas	29.01	737.6	29.85	758.2	65	18.3	89	SW	5	2.2	.....	.....	10n	.....	NW	0.60	15.2	Light rain	
Los Angeles, California	29.47	748.5	29.80	756.9	66	18.9	81	Calm	0	0	.....	0	1s	.....	Calm	Inap.	Inap	Clear	
Louisville, Kentucky	29.34	745 2	29.87	758.7	72	22.2	71	SW	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.26	743.2	29.90	759.4	73	22.8	85	NE	2	0.9	.....	.....	10ks	.....	Calm	0.07	1.8	Cloudy	
Marquette, Michigan	28.92	734.6	29.58	751.3	65	18.3	84	W	12	5.4	.....	0	0	.....	.....	1.10	27.9	Clear	
Mason, Texas	28.32	719.3	30.01	762.2	71	21.7	95	NE	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Memphis, Tennessee	29.63	752.6	29.93	760.2	76	24.4	72	N	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.01	736.8	29.70	754.4	65	18.3	84	SW	12	5.4	.....	1k	0	.....	.....	0.50	12.7	Clear	
Mobile, Alabama	29.90	759.4	29.94	760 5	76	24.4	93	W	4	1.8	.....	0	8s	.....	NE	0.86	21.8	Clearing	
Montgomery, Alabama	29.71	751.6	29.93	760.2	76	24.4	95	Calm	0	0	.....	.....	10s	.....	Calm	0.92	23.4	Cloudy	
Morgantown, West Virginia	28.86	733.0	29.86	758.4	71	21.7	75	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Mt. Washington, N. H.	23.95	608.3	30.31	769.9	45	7.2	84	NW	14	6.3	.....	0	Haze	.....	Calm	0.05	1.3	Clear	
Nashville, Tennessee	29.40	746.7	29.91	759.7	75	23.9	77	W	4	1.8	.....	Haze	2s	Calm	Calm	0	0	Fair	
New Haven, Connecticut	29.88	758.9	30.00	762.0	70	21.1	85	NE	1	0.4	.....	5ck	Haze	Calm	Calm	0	0	Fair	
New London, Connecticut	29.97	761.2	30.02	762.5	70	21.1	80	N	4	1.8	.....	10cks	Fog	W; Calm	Calm	0	0	Cloudy	
New Orleans, Louisiana	29.90	759.4	29.95	760.7	82	27.8	79	S	2	0.9	.....	2k	0	Calm	.....	0.21	5.3	Clear	
Newport, Rhode Island	29.96	761.0	30.01	762.2	70	21.1	85	E	4	1.8	.....	4k	0	SW	.....	0	0	Fair	
New York, New York	29.82	757.4	30.00	762.0	71	21.7	90	NE	8	3.6	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	29.84	757.9	29.90	759.4	75	23.9	95	SW	1	0.4	.....	.....	10n	.....	SW	1.72	43.7	Light rain	
North Platte, Nebraska	27.12	688.8	29.65	753.1	56	13.3	87	W	4	1.8	.....	5k	5s	W	W	0.11	2.8	Cloudy	
Olympia, Washington Ter.	29.89	759.2	29.93	760.2	51	10.6	93	E	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.76	730.5	29.79	756.7	68	20.0	79	S	3	1.3	.....	0	0	.....	.....	0.03	0.8	Clear	
Oswego, New York	29.57	751.1	29.87	758.7	70	21.1	89	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Pembina, Dakota	28.92	734.6	29.72	754.9	56	13.3	94	W	16	7.2	.....	.....	8s	.....	W	0.04	1.0	Cloudy	
Philadelphia, Pennsylvania	29.91	759.7	29.93	761.0	71	21.7	80	NE	10	4.5	.....	2ck	Fog	W	NE	0	0	Fair	
Phœnix Arizona	28.69	726.4	.....	.....	95	32.2	57	SE	.....	.....	1	5c	0	SE	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	40	4.4	14	NW	9	4.0	.....	0	Haze	.....	.....	0	0	Hazy	
Pioche, Nevada	24.12	612.6	29.89	759.2	66	18.9	45	SE	2	0.9	.....	0	5s	.....	Calm	0.04	1.0	Fair	
Pittsburg, Pennsylvania	29.07	738.4	29.84	757.9	71	21.7	75	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.09	738.9	29.71	754.6	72	22.2	76	S	12	5.4	.....	0	5ks	.....	S	0	0	Fair	
Portland, Maine	29.95	760.7	30.00	762.0	66	18.9	84	NE	3	1.3	.....	0	Haze	.....	.....	0	0	Clear	
Portland, Oregon	29.88	758.9	29.98	761.5	55	12.8	81	NW	1	0.4	.....	0	Fog	.....	SE	0	0	Clear	
Prescott, Arizona	24.81	630.2	30.17	766.3	64	17.8	78	Calm	.....	.....	0	5ck	0	Calm	.....	0	0	Fair	
Punta Rassa, Florida	29.91	759.7	29.92	760.0	83	28.3	79	SE	12	5.4	.....	0	0	.....	.....	0.02	0.5	Clear	
Red Bluff, California	29.37	746.0	29.70	754.4	78	25.6	43	SE	8	3.6	.....	5c	Haze	Calm	Calm	0	0	Fair	
Rochester, New York	29.24	742.7	29.82	757.4	70	21.1	80	SW	6	2.7	.....	2k	Haze	W	Calm	0	0	Fair	
Roseburg, Oregon	29.37	746.0	29.93	760.2	54	12.2	87	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Sacramento, California	29.65	753.1	29.73	755.1	70	21.1	53	S	12	5.4	.....	5k	5s	Calm	Calm	0	0	Cloudy	
St. Louis, Missouri	29.30	744.2	29.84	757.9	71	21.7	71	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.92	760.0	29.93	760.2	80	26.7	91	Calm	0	0	.....	2ck	0	SW	.....	0	0	Fair	
St. Paul, Minnesota	28.87	733.3	29.66	753.4	61	16.1	82	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	68	20.0	22	E	8	3.6	.....	5k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.22	742.2	29.78	756.4	76	24.4	95	NE	2	0.9	.....	0	0	.....	.....	0.07	1.8	Clear	
San Diego, California	29.77	756.1	29.84	757.9	69	20.6	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.20	741.7	29.83	757.7	72	22.2	67	SW	9	4.0	.....	8c	2s	Calm	Calm	0	0	Cloudy	
Sandy Hook, New Jersey	29.94	760.5	29.98	761.5	71	21.7	95	E	9	4.0	.....	2c	Fog	E	E	0	0	Fair	
San Francisco, California	29.74	755.4	29.80	756.9	56	13.3	94	SW	8	3.6	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	60	15.6	55	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
Savannah, Georgia	29.86	758.4	29.95	760.7	88	31.1	76	SW	6	2.7	.....	0	5ks	.....	SW	0.04	1.0	Fair	
Shreveport, Louisiana	29.70	754.4	29.91	759.7	79	26.1	86	N	2	0.9	.....	0	0	.....	.....	Inap	Inap.	Clear	
Silver City, New Mexico	24.32	617.7	.....	.....	65	18.3	73	N	4	1.8	.....	0	0	.....	.....	Inap	Inap.	Clear	
Smithville, North Carolina	29.94	760.5	29.97	761.2	77	25.0	95	S	28	12.5	.....	.....	10n	.....	S	1.18	30.0	Light rain	
Springfield, Massachusetts	29.82	757.4	29.94	760.5	69	20.6	80	Calm	0	0	.....	0	Fog	.....	Calm	0.03	0.8	Clear	
Stockton, Texas	26.91	683.5	29.91	759.7	66	18.9	40	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.97	761.2	30.02	762.5	67	19.4	84	SW	4	1.8	.....	0	0	.....	.....	0.14	3.6	Clear	
Toledo, Ohio,	29.13	739.9	29.76	755.9	71	21.7	71	S	10	4.5	.....	5c	Haze	S	Calm	0	0	Fair	
Tucson, Arizona	27.23	691.6	29.78	756.4	82	27.8	67	Calm	0	0	.....	10ck	0	Calm	.....	0	0	Cloudy	
Tybee Island, Georgia	29.92	760.0	29.95	760.7	84	28.9	79	SW	10	4.5	.....	2k	2s	Calm	S	0.14	3.6	Fair	
Umatilla, Oregon	29.51	749.5	.....	.....	59	15.0	83	SE	12	5.4	.....	0	Sm'e	.....	Calm	0	0	Fair	
Uvalde, Texas	29.01	736.8	29.79	756.7	77	25.0	82	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.69	754.1	29.94	760.5	76	24.4	100	Calm	0	0	.....	.....	10s	.....	Calm	1.04	26.4	Cloudy	
Virginia City, Montana	24.34	618.2	29.82	757.4	57	13.9	52	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.39	746.5	29.73	755.1	78	25.6	60	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Washington, D. C.	29.82	757.4	29.93	760.2	72	22.2	90	NE	5	2.2	.....	.....	10s;ks	.....	calm;E	0.04	1.0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	69	E	.....	.....	1	5cs	2ks	S	Calm	0	0	Fair	
Wilmington, N. Carolina	29.86	758.4	29.93	760.2	75	23.9	95	SW	1	0.4	.....	.....	10s	.....	SW	1.14	29.0	Cloudy	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	70	21.1	40	SW	4	1.8	.....	0	8s	.....	SW	0	0	Cloudy	
Wood's Holl, Mass	29.96	761.0	30.01	762.2	68	20.0	79	SE	2	0.9	.....	.....	8s	.....	SW	0	0	Cloudy	
Yankton, Dakota	28.59	726.2	29.83	757.7	64	17.8	73	W	6	2.7	.....	2cs	0	W	.....	0	0	Fair	
Yuma, Arizona	29.55	750.6	29.71	754.6	86	30.0	68	N	1	0.4	.....	0	5ks	.....	SE	0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.80	756.9	29.85	758.2	53.5	11.9	87	NE	6	2.7	.....	4k	5s	E	NE	0.30	7.6	Cloudy	J. Fortescue, W. W. ed.
Havana, Cuba, W. I.	29.81	757.2	29.83	757.7	83	28.3	74	E	3.6	1.6	.....	4k	0	SE	.....	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	80	26.7	82	Calm	0	0	.....	2c	2k	NE	.....	0	0	Fair	G. O. Gellich.
Kingston, Jamaica, W. I.	30.08	761.0	30.09	764.3	80	26.7	95	SE	20	8.9	.....	.....	10n	.....	Calm	0.79	20.1	.....	James Gall.
Navassa, W. I.	29.83	757.7	29.91	759.7	81	27.2	.....	E	17.1	7.6	.....	.....	.....	.....	.....	0.59	15.0	Raining	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	83	28.3	83	SE	.....	.....	3	3c	5k	Calm	.....	0.940	23.88	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.24	641.1	.....	.....	67.6	19.4	83	.....	.....	.....	.....	.....	10s;ks	.....	.....	0.01	0.3	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde 3,560 (?) ft., or 1,085.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,870 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,916.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,140.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,550 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 m.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.16	763.5	82.5	28.1	82.5	28.1	83	N	3	1.3	.....	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.01‡	762.2‡	.....	.....	70	21.1	80	SE	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.86*	758.4*	75.4	24.1	73.8	23.2	81	ENE	.....	.....	4	.....	10k	.....	NW	0	0	.....	.....	Cloudy.....	
Adams. Apia, Samoan Islands	30.03	762.7	76	24.4	76	24.4	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, N. 36° 19′, W. 70° 49′	30.09‡	764.3‡	.....	.....	72	22.2	90	N	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ashuelot. Kobe, Japan	29 89	759.2	81	27.2	79	26.1	91	NNE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Alaska. S. 29° 05′, W. 46° 50′	30.49	774.4	65	18.3	58	14.4	88	SSW	.....	.....	6	.....	10	.....	SW	0.37	9.4	Heavy	SW	Drizzling.....	
Canonicus, New Orleans, La	29.95	760.7	56	13.3	80	26.7	91	E	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado, New York, N. Y.	29.95‡	760.7‡	.....	.....	71	21.7	90	E	8	3.6	.....	.....	10	.....	ESE	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.58‡	751.3‡	.....	.....	68	20.0	84	WSW	.....	.....	3	.....	4	.....	WSW	.....	.....	.....	.....	Rain-squalls	
Despatch. Volo, Turkey	29.94‡	760.5‡	.....	.....	82	27.8	56	SSE	.....	.....	3	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	30.00	762.0	76	24.4	75	23.9	100	WSW	4.8	2.1	.....	.....	5	.....	SW	0.3	8.	.....	.....	Overcast.....	
Gettysburg Villefranche, France	29.83‡	757.7‡	.....	.....	78	25.6	100	SSW	.....	.....	3	.....	8	.....	SSW	0	0	Light	S	Cloudy.....	
Hartford, Rio de Janeiro, Brazil	30.26	768.6	73	22.8	73	22.8	76	E	2.4	1.1	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Marion, Villefranche, France	29.95	760.7	79	26.1	78	25.6	86	SW	.....	.....	1	.....	2	.....	SW	0	0	Long	S	Cloudy.....	
Michigan, Straits of Mackinaw	29.27	743.4	73	22.8	67	19.4	84	SSW	.....	.....	3	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
Monocacy. Yokohama, Japan	29.87‡	758.7‡	.....	.....	74	23.3	90	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
New Hampshire, Port Royal, S. C.	30.13‡	765.3†	.....	.....	82	27.8	83	SW	12	5.4	.....	.....	5	.....	SSW	0.1	3	.....	.....	Fair.....	
Onward, Callao, Peru	30.08†	764.0†	.....	.....	62	16.7	83	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	29.98‡	761.5‡	.....	.....	72	22.2	95	Calm	.....	.....	0	.....	10	.....	.....	0.35	8.9	.....	.....	Cloudy.....	
Palos, Tientsin, China	29.95	760.7	85	29.4	80	26.7	87	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Clear.....	
Pensacola, Mare Island, California	29.86	758.4	64	17.8	60	15.6	94	SW	3	1.3	.....	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Plymouth. New York, N. Y.	30.20	767.1	74	23.3	72	22.2	90	NE	.....	.....	2	.....	10	.....	N	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	30.02	762.5	78.5	25.8	80	26.7	96	Calm	.....	.....	0	.....	10	.....	Calm	.....	.....	.....	.....	Rainy.....	
Rio Bravo. Brownsville, Texas	29.85	758.2	77	25.0	77	25.0	95	E	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	29.92‡	760.0‡	.....	.....	75	23.9	86	E	.....	.....	2	.....	.....	.....	E	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.94	760.5	74	23.3	73	22.8	95	E	8	3.6	.....	.....	8	.....	SSE	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	29.67	753.6	69	20.6	69	20.6	85	NW	.....	.....	3	.....	5	.....	NW	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass.	29.99‡	761.7‡	.....	.....	70	21.1	80	ESE	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Hazy.....	
Trenton. Cherbourg, France	29.59‡	751.6‡	.....	.....	66	18.9	70	W	.....	.....	3-5	.....	8	.....	S;W	1.0	25.	.....	.....	Cloudy.....	
Tuscarora. Acapulco, Mexico	29.68	753.9	77	25.0	77	25.0	91	ENE	.....	.....	2	.....	10	.....	Calm	4.7	119.	.....	.....	Cloudy.....	
Vandalia. N. 42° 27′, E. 10° 39′	29.92‡	760.0‡	.....	.....	78	25.6	82	S	.....	.....	1	.....	5	.....	SE	.....	.....	Long	SE	Fair	
Wabash, Boston, Mass.	29.96‡	761.0‡	.....	.....	76	24.4	68	WSW	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Hazy.....	
Wyoming, N. 39° 23′, W. 72° 34′	29.90†	759.4†	.....	.....	74	23.3	100	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Smooth	.....	Overcast.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The position given for the Plymouth is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Alaska																			
S. S. China, N. 40° 12′, W. 169° 35′		30.42*	772.7*	70	21.1	100	S			2		6		SW	0	Light; smooth	SW	Foggy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 43° 40′, W. 124° 50′		30.05†	763.3†				NW			3		10				Mod'ate	NW	Overcast	Capt. Seabury.
S. S. City of Peking, N. 27° 50′, E. 124° 45′		29.91†	759.7†	84	28.9	79	W	22	9.8			5		WSW	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.03†	762.7†	60	15.6	82	Calm			0		10						Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.75*	755.6*	80	26 7		SSW			2				SSW	2 hours			D clouds	Capt. B. Gleadell.
S. S. Germanic, N. 45° 40′, W. 49° 54′		30.23†	767.8†	58	14.4	??	S			4		10			0	Mod'ate	NE	Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 40° 40′, E. 167° 00′		29.74*	755.4*	68	20.0	84	NW			3		Fog		W		Rough	S	Misty	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		29.29*	744.0*	63	17.2	89	WNW			6		5		ESE	Heavy			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		29.92	760.0	76	24.4	86	ENE			2		7		NNE	0			Clear?	Captain Morrison.
S. S. Pennsylvania, N. 45° 41′, W. 34° 33′		30.11†	764.8†	65	18.3	100	NW			4		6?		NW	0	Heavy	NW	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 44° 20′ W. 41° 46′		30.22*	767.6*				NNE	8	3.6			10		NNE		Heavy	N	Cloudy	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Tarpaulin Cove, Mass		29.93	760.2	70	21.1	85	ESE	3	1.3		8k		SW		0	Smooth		Cloudy	Capt. James Jorgenson.
Schooner Florence, Godhavn, Greenland		29.92*	760.0*	50.8	10.4		ENE			3		10ks						Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 15, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.94	760.5	90.5	32.5	52	NNW	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Kesxuche.
Algiers	.....	.....	29.81	757.2	88.9	31.6	56	WNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.87	758 7	80.1	26.7	83	NNE	.....	.....	1	.....	6	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.90	759 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.00	762.0	89.6	32 0	.....	E	.....	.....	3	.....	2	.....	.....	0	0	Fair...	Gau.
Saida	.....	.....	30.03	762 8	92.8	33.8	41	N	.....	.....	4	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.53	760.1	95 0	35 0	.....	N	.....	.....	4	.....	1	.....	.....	0	0	Very fair....	Watrin.
Geriville	.....	.....	30.08	764.1	92.3	33.5	42	SSW	.....	.....	2	.....	2	.....	.....	0	0	Fair.....	Brugniaux.
Laghouat	.....	.....	30.02	762.6	98.6	37.0	23	Calm	.....	.....	0	.....	1	.....	.....	0	0	Very fair....	Bertrand.
Biskra	.....	.....	29.95	760.6	107.6	42.0	20	SE	.....	.....	2	.....	1	.....	.....	0	0	Very fair....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann. Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.24	742.8	29.76	756.0	80.2	26.8	73	NW	.....	.....	3	.....	8	.....	.....	Inap.	Inap.	.....	Prof. Ivan Stozu.
Cracow	28.95	735.2	29.67	753.5	75.6	24 2	54	W	.....	.....	3	.....	8	.....	.....	0.037	0.95	.....	Prof. Dr. Karlinski.
Eperies	28 89	733.7	29.72	754.9	75.9	24.4	71	Calm	.....	.....	0	.....	8s	.....	NE	0.348	8.85	.....	Julius Mikolik.
Gratz	28.56	725.5	29.74	755.5	76.3	24.6	76	SE	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.41	721.5	29.75	755 6	76.8	24.9	57	WNW	.....	.....	3	.....	7	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.44	722.3	29.71	754.7	73.0	22.8	62	SSW	.....	.....	2	.....	8	.....	.....	0.193	4.9	.....	Prof. C. Wagner
Lemberg	28.69	728.7	29.63	752.5	73.0	22.8	64	NW	.....	.....	3	.....	3	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.72	754.8	29.82	757.5	83.5	28.6	65	SSE	.....	.....	2	.....	2cs	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.34	745.3	29.78	756.4	83.5	28.6	54	NE	.....	.....	5	.....	3	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.71	755.4	29.84	758.0	80.6	27.0	67	Calm	.....	.....	0	.....	10	.....	.....	0	0	Cloudy.....	P. Busin.
Vienna	29.09	738 9	29.77	756.2	77.2	25.1	50	W	.....	.....	4	.....	6	.....	.....	0.528	13.4	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation; at Cracow, the barometer reduced to freezing but not to sea-level. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.30	718 8	29.76	755.9	65.1	18.4	62	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.47	748.6	29.67	753.5	70.8	21.3	59	SW	.....	.....	5	1	4	SW?	SW	0 114	2.90	.....	Royal Observatory
Furnes	29.68	753.8	29.70	754.4	65.7	18.7	81	SW	.....	.....	5	.....	10	.....	.....	0.051	1.3	.....	M. E. de Cae.
Maeseyck	29.58	751.2	29.70	754.4	71.4	21.9	70	SSW	.....	.....	4	.....	8	.....	.....	0.551	14.0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

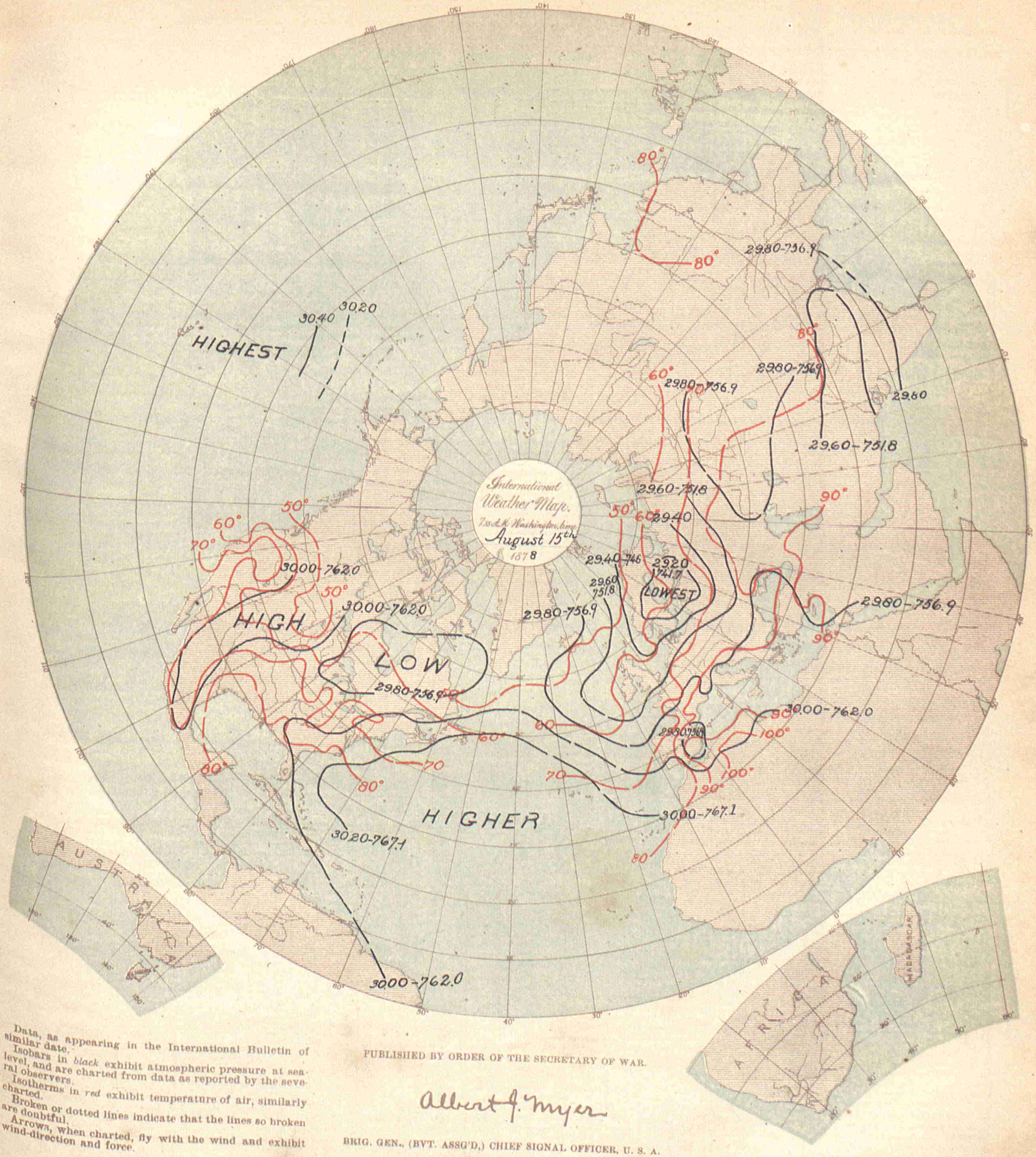
Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.45	748.0	29.55	750.6	55.5	13.1	.....	ENE	10	4.5	.....	.....	9	.....	.....	0.960	24.38	Overcast	W. Boswell.
Ardrossan	29.44	747.8	29.46	748.3	58	14.4	.....	NE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast	George Carrick.
Armagh, Observatory	.....	.....	29.48	748.8	66.3	19.1	.....	SW	9	4.0	.....	.....	8	.....	.....	.....	.....	D. clouds	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.52	749.8	63.0	17.2	.....	W	15	6.7	.....	.....	7	.....	.....	.....	.....	D. clouds	John Hartnup.
Birr Castle, (Parsonstown)	29.28	743.7	29.47	748.5	66.8	19.3	.....	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	J. L. E. Dreyer.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.14	740.1	29.53	750.0	65.4	18.6	.....	W	.....	.....	1	.....	4	.....	.....	0.20	5.1	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	30.01	762.2	30.04	763.0	83	28.3	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.59	751.6	72.5	22.5	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	H. Todd. [H.C.
Cardington	.....	.....	29.60	751.8	72.0	22.2	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	John McLaren.
Chatham, School M. E.	29.47	748.5	29.59	751.6	72.2	22.3	.....	SW	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky	Q.M. Sergt. Magawran, R. F., for
Dartmoor	28.24	717.3	29.58	751.3	60.0	15.6	.....	S	.....	.....	4	.....	4	.....	.....	.....	.....	Fine	Alexander Watt. [Col. Mar-
Donaghadee	29.44	747.8	29.46	748.3	66	18.9	.....	W	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky	J. Mac Gowan. [lin, R. E.
Dover	29.61	752.1	29.64	752.8	66	18.9	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	½ clouded	J. Costello.
Eccles, (near Manchester)	.....	.....	29.51	749.5	67.8	19.9	.....	NW	3.4	1.5	.....	.....	3	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Falmouth, Observatory	29.37	746.0	29.60	751.8	67.3	19.6	.....	S	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.76	705.1	30.04	763.0	65.2	18.4	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	81	27.2	.....	W	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	...
Galway, Queen's College	.....	.....	29.44	747.8	65	18.3	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.89	759.2	29.94	760.5	83.8	28.8	.....	W	.....	.....	4	.....	0	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.29	744.0	29.50	749.3	55	12.8	.....	NNE	.....	.....	2	.....	.....	.....	.....	.....	.....	Blue sky	D. G. Maclean.
Great Yarmouth	29.56	750.8	29.57	751.1	68	20.0	.....	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	G. T. Watson.
Greenwich, Royal Obs'y	29.44	747.8	29.60	751.8	73.5	23.1	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Guernsey	29.43	747.5	29.64	752.8	66.5	19.2	.....	SSW	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.60	751.8	68	20.0	.....	S	.....	.....	2	.....	2k	.....	.....	0.34	8.6	Fine	M. P. Moyle.
Holyhead	29.47	748.5	29.53	750.0	65	18.3	.....	SW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky	John Tilston.
Jersey	29.42	747.3	29.71	754.6	67.1	19.5	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	.....	J. Fisher.
Kew, Observatory	.....	.....	29.60	751.8	68.1	20.1	.....	SW	14	6.3	.....	.....	7	.....	.....	.....	.....	Hazy	The Staff.
Kingstown	29.49	749.0	29.52	749.8	64	17.8	.....	SE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds	George Mitchell.
Leicester, Museum	.....	.....	29.54	750.3	69.5	20.8	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.82	757.4	29.90	759.4	86.6	30.3	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. J. Becket, A. H. C.
Nairn	29.43	747.5	29.52	749.8	55	12.8	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.05	763.3	88.0	31.1	.....	SE	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.57	751.1	29.75	755.6	70.7	21.5	.....	WSW	.....	.....	3	.....	6ks;k	.....	SW	0.015	0.38	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.05	737.9	29.55	750.6	66 0	18.9	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.60	751.8	69	20.6	.....	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	.....	H.E. Bellamy.
Plymouth	29.54	750.3	29.62	752.3	66.8	19.3	.....	S	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.47	748.5	29.52	749.8	66	18.9	.....	S	.....	.....	3	.....	5	.....	.....	Blank	Blank	Fine	W. Kennedy.
Saint Ann's Head	29.40	746.7	29.55	750.6	65	18.3	.....	SSW	.....	.....	1	.....	7	.....	.....	.....	.....	Showery	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.58	751.3	55.2	12.9	.....	N	9	4.0	.....	.....	9	.....	.....	.....	.....	D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.90	759.4	87.4	30.8	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.28	743.7	29.55	750.6	67.9	19.9	.....	SSW	.....	.....	2	.....	7	.....	.....	0.09	2.3	Overcast	W. F. Cooper.
Siloth Rectory	29.46	748.3	29.48	748.8	69.9	21.1	69	W	.....	.....	2	.....	5	.....	.....	0.105	2.67	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.14	740.1	29.55	750.6	64.9	18.3	.....	WSW	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	W.C. Carlisle for Rev. S. J. Perry
Stornoway, Lews C. (Hebr.)	29.47	748.5	29.51	749.5	56	13.3	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.56	750.8	61	16.1	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.60	751.8	68	20.0	.....	S	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	29.48	748.8	61.1	16.2	.....	WSW	6	2.7	.....	.....	8	.....	.....	.....	.....	Showery	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.22	742.2	57.0	13.9	87	NW	.....	.....	2	.....	7kn	.....	.....	0.5	13.	Raining	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.96	761.0	30.15	765.8	75.0	23.9	71	ESE	14.0	6.3	.....	1	2	.....	ESE	0.05	1.3	Fine	C. Meldrum.
Melbourne, Observatory	29.79	756.6	29.88	758.9	49.0	9.4	73	N	11	4.9	.....	.....	9	.....	.....	0.02	0.5	Threatening	R. L. J. Ellery.
Monach Light-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 54° 0', W. 52° 30'	4	S	D. clouds	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 40° 10', W. 72° 20'	3	SE	Drizzling	Capt. Alex Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO 220 DEVONSHIRE ST BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the cooperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.22	666.0			66.2	19.0	93	NE			1	8ck				0.3	8.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.38	746.3	29.43	747.5	66.2	19.0	58	NW			6		3						
Fanöe	29.48	748.7	29.50	749.2	65.3	18.5	70	W			6		6						
Godthaab, (Greenland)	29.80	757.0	29.85	758.1	41.9	5.5	99	S			4		10						
Stykkisholm, (Iceland)	29.78	756.3	29.82	757.4	49.6	9.8	76	E			4		8						
Thorshavn, (Farõe)	29.61	752.1	29.65	753.0	52.0	11.1	62	NE			2		10						
Vestervig	29.27	743.4	29.44	747.7	64.0	17.8	74	W			7		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.25	743.0	29.80	757.0	71.2	21.8	75	SW			3		10		W	0.04	1.	Covered	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.73	755.1	29.81	757.1	87.4	30.8	47	SSW			1		0			0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.24	742.8	29.78	756.4	68.9	20.5	64	SSW			1		8kn		SW	0.748	19.0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																	0		Albert Cheux.
Beauvais, Normal School	29.46	748.2	29.73	755.2	71.2	21.8	54	WSW			1		8		W	0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon	28.98	736.1	29.87	758.6	69.1	20.6	82	SW			2		10			0.724	18.4	Covered	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.27	743.5	29.81	757.1	66.6	19.2	87	SW			2		10n		SW	0	0	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.39	746.6	29.63	752.7	69.4	20.8	75	SW			3		3		SW	0.020	0.50		The Staff.
Carcassonne, Normal School	29.39	746.5	29.78	756.3	88.9	31.6	45	NW			1		0			0	0	Clear	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.21	741.8	29.75	755.7	70.2	21.2	82	S			2		5		NNE	0.12	3.	Cloudy	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.45	748.0	29.76	755.8	68.7	20.4	71	SW			2		8	NE	NE	0.322	8.2	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.49	723.6	29.80	756.8	69.3	20.7	82	S			1				SW	0.071	1.8		Alluard, Director.
Commercy, Normal School	28.95	735.4	29.89	757.0	68.0	20	72	WSW			1		10kn		WSW	1.26	32.	Covered	Dr. Coulet, Director.
Commune de Grèasque*	28.77	730.7	29.91	759.7	90.5	32.5	33	W			1		1		SW	0	0	Clear	M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.59	751.6	29.80	756.8	70.9	21.6	69	W			4		10		W	0	0	Covered	Mouillot, Director.
Le Mans, Normal School	29.46	748.2	29.76	755.8	71.6	22	79	SW			1		5		SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.94	735.0	29.83	757.6	65.7	18.7	90	SE			2		10		E	Inap.	Inap.	Raining	Baudry, Director.
Lorient, Naval Observatory																			T. Carré, Director.
Mâcon, Normal School					77.0	25.0	76	SSW			1		10		SW	0.098	2.5	Covered	M. Galzin, Director.
Mirecourt, Normal School	28.73	729.7	29.73	755.2	68.9	20.5	69	SW			1		5k		W	0.47	12.	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.76	755.8	29.95	760.6	94.6	34.8	33	S			2		2		S	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.84	732.4	29.85	758.1	80.2	26.8	45	N			1		n	S	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.04	636.1			53.6	12.0	100	SW			2					0.472	12.0	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.76	756.0	29.80	756.8	69.6	20.9	83	SSW			2		10		SSW	0	0	Covered	M. Giguel, Director.
Rouen, Normal School	29.61	752.1	29.69	754.2	70.7	21.5	55	SSW			1		10		SW	0.039	1.0	Covered	F. Lucard, Director.
Saint Malo (Port)			29.68	753.9	69.6	20.9	50	SSW			3		5		SSW	0	0	Cloudy	M. H. Hercouet.
Tarbes, Normal School	29.04	737.6	30.09	764.2	71.6	22	80	W			2		0			0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	29.22	742.3	29.93	760.1	64.4	18.0	85	NE			2		10		W	0.24	6.	Covered	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.96	761.0	29.99	761.7	82.4	28										0.20	5.		L'Abbé Marches.
Lyons			30.02	762.5	72.9	22.7	65					0				0.016	0.4		L. Jays.
Marseilles, Observatory			29.77	756.2	84.6	29.2	55	WSW			1	0				0	0		The Staff.
Mont-Louis	25.09	635.1	30.28	769.1	74.8	23.8	31	SSW	7.4	3.33		1			SE	0	0		M. Cave.
Nice			29.82	757.4	78.6	25.9	80	SE			2	1				0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.46	748.2	29.78	755.2	69.3	20.7	69	SSW			3	9			SW	0.244	6.2		Marié Davy, Director
Perpignan			29.75	755.6	82.4	28.0	69	SE	11.2	5.00		0				0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.53	572.2			59.4	15.2		SW			4	5				0.114	2.9	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.58	751.3	29.74	755.5	67.8	19.9	68	SSW			2	10			WSW	0	0	Covered	E. Renou.
Toulouse, Observatory	29.12	739.6	29.84	757.8	81.1	27.3	57	SE			1	7				0.981	25.00		The Staff.
Tours																			
Versailles	29.44?	747.7?	29.63?	752.7?	70.3	21.3	67	S			4	7			SW	0.031	0.8		C. Marquet.
Zi-Ka-Wei, (near Shanghai)	29.75	755.7	29.78	756.4	77.2	25.1	94	E	8.5	3.8		3ck			SE	0.169	4.3	Fair	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,538.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.80	731.6	29.62	752.4	70.3	21.3	73	W			1		5	W		0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.48	748.7	29.64	752.9	71.6	22.0	47	W			4		4			0.748	19.0		Prof. Arndt.
Breslau	29.20	741.7	29.72	755.0	71.4	21.9	56	W			6		9			0.011	0.29		Royal University Obs'y
Carlsruhe	29.34	745.1	29.74	755.5	72.6	22.2	65	sW			2		9			0.906	23.0		Albert Senz.
Cassel	29.10	739.0	29.73	755.1	68.4	20.2	73	NNW			3		5	WSW		0.164	4.16		Dr. H. Möhl.
Crefeld	29.50	749.2	29.66	753.3	74.8	23.8	51	SW			5		6cs;k			0.28	7.		Director Lose.
Emden	29.55	750.5	29.59	751.5	61.3	16.3	96	WSW			1		10			0.394	10.0	Lightning	Prof. Prestel.
Frankfort on the Main	29.38	746.3	29.73	755.1	74.1	23.4		SW			2		6			0.047	1.2		Physical Society.
Friedrichshafen	28.41	721.5	29.77	756.2	72.7	22.6	72	WNW			1		9	WNW		0.429	10.9		M. Wilhelm.
Hamburg	29.54	750.4	29.61	752.1	66.9	19.4	64	NNW			5		7kn			0.272	6.9	Showery	Captain F. Hegemann.
Kiel	29.54	750.3	29.56	750.8	67.3	19.6	60	W			4		5			0.077	1.94		Prof. G. Karsten.
Königsberg, (Prussia)	29.35	745.5	29.43	747.5	66.2	19.0	61	W			8		6			0.339	8.6		Prof. E. Luther.
Köslin			29.49	749.1	66.4	19.1		W			6		2			0.587	14.9		H. Müller.
Leipsic, Observatory	29.29	744.0	29.70	754.3	68.9	20.5	65	WNW			4		9	W		Inap.	Inap.	Sprinkling	Prof. Bruhns.
Memel, Naval School	29.28	743.6	29.32	744.7	66.9	19.4	72	W			8		7s;n						Reinbrecht and Skalweit.
Neufahrwasser	29.47	748.6	29.49	749.0	68.9	20.5	54	WNW			6		7			0.110	2.8		A. Lothes.
Posen	29.38	746.2	29.65	753.2	70.7	21.5	47	W			6		4			0.193	4.9		Dr. Magener.
Strassburg (in Alsace)	29.27	743.4	29.80	756.8	73.2	22.9	61	SW			3		10	W		0.744	18.89	Raining	Astronomical Observatory.
Stuttgart	28.85	732.7	29.78	756.4	73.4	23.0	53	W					8	W		0.008	0.2		Prof. Schoder.
Treves, (Trier)	29.23	742.4	29.74	755.5	71.6	22.0	53	SW			6		10			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.32	719.4	29.78	756.3	68.7	20.4	65	WNW	4.7	2.1			8ck		W	0.303	7.7		Dr. Von Bebber.
Wustrow, Naval School	29.53	750.1	29.57	751.1	66.4	19.1	80	WSW			6		3			0.220	5.6		E. F. Schütz.
German Naval Series.																			

NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.8	29.85	758.2	89.1	31.7		SW			2.9							Clear	Dr. J. F. J. Schmidt.

NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee																			
Deesa	29.19	741.4	29.66	753.4	84.2	29.0	86	W					9		W	4.63	117.6	D. clouds	
Bombay	29.70	754.4	29.74	755.4	80.1	26.7	92	W	16	7.2			10		SW	3.05	77.5	Overcast	
Poona	27.77	705.4	29.78	756.4	75.6	24.2	83	WSW					10		WSW	0.01	0.3	Overcast	
Lahore	28.87	733.3	29.61	752.2	77.7	25.4	91	W	2.1	0.9			8			0.14	3.6	Raining	
Belgaum	27.28	692.9	29.83	757.7	71.9	22.2	95	W	8	3.6			9		W	0.10	2.5	Showery	
Bangalore																			
Roorkee	28.71	729.2	29.60	751.7	81.8	27.7	83	Calm	3.4	1.5			4			0.86	21.8		
Agra	29.05	737.8	29.60	751.8	89.2	31.8	71	N					2		N	0	0		
Trichinopoly																			
Nagpur	28.63	727.2	29.67	753.6	77.6	25.3	95	SW	4.3	1.9			10		E	0.08	2.0	Drizzling	
Madras																			
Lucknow																			
Allahabad	29.26	743.2	29.57	751.0	87.3	30.7	74	E	2.7	1.2			0			0	0	Blue sky	
Patna	29.42	747.2	29.59	751.7	87.8	31.0	69	E	3.7	1.6			4	E	E	0	0	D. clouds	
Hazaribagh	27.60	700.9	29.60	751.8	76.8	24.9	90	SE	7.9	3.5			8			0.48	12.2	Showery	
Cuttack	29.58	751.4	29.66	753.4	83.8	28.8	79	SSW	3.4	1.5			10			0.02	0.5	Overcast	
Calcutta (Alipore)	29.65	753.1	29.67	753.7	81.7	27.6	84	S	8	3.6			7	W	W	0	0	D. clouds	
Goalpara	29.30	744.3	29.70	754.2	76.7	24.8	94	SW	5.2	2.3			10			0.15	3.8	Overcast	
Chittagong	29.70	754.4	29.79	756.7	78.7	25.9	92	ESE	6.6	3.0			10			0.14	3.6	Raining	
Sibsagar	29.36	745.7	29.69	754.2	84.2	29.0	80	Calm	2.3	1.0			10	W	W	0	0	Overcast	
Rangoon																			
Jubbulpore	28.24	717.3	29.59	751.6	81.3	27.4	83	E	2.2	1.0			8			0	0	Overcast	

NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.43	747.6	29.85	757.6	78.4	25.8	83	SE	3.8	1.7	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.79	754.3	29.80	757.0	81.9	27.7	66	N	1.3	0.6	.....	.....	10	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.65	753.0	29.79	756.6	82.8	28.2	59	S	0.7	0.3	.....	.....	6	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.50	723.8	29.74	755.5	82.4	28.0	59	W	.....	.....	1	.....	6	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.30	744.1	29.79	756.6	82.8	28.2	56	S	.....	.....	2	.....	9	S	.....	0.362	9.2	.....	Prof. Schiaparelli.
Moncalieri	28.91	734.2	29.77	756.2	80.8	27.1	63	S	2.5	1.1	.....	.....	8	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.94	709.7	29.76	756.0	77.7	25.4	66	E	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.61	752.1	29.82	757.5	77.9	25.5	80	E	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.68	753.8	29.84	758.0	75.7	24.3	83	SE	.....	.....	2	.....	10	SE	.....	0.063	1.6	.....	Prof. G. M. Garibaldi.
Parma	29.50	749.2	29.80	756.9	84.0	28.9	47	SW	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.60	751.9	29.85	758.1	87.3	30.7	47	NW	.....	.....	2	.....	7	WSW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.76	755.9	29.84	758.0	81.3	27.4	71	SW	14.3	6.4	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.77	756.1	29.82	757.3	84.9	29.4	64	NE	.....	.....	.....	.....	7	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.35	720 2	29.84	757.8	81.7	27.6	59	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rome	29.73	755.2	29.90	759.5	86.0	30.0	41	S	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Avv. P. Ponticelli.
Naples, O. U.	29.74	755.5	29.94	760.4	82.2	27.9	62	S	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Lecce	29.67	753.5	29.91	759.6	88.7	31.5	28	SSW	9.4	4.2	.....	.....	3	SW	.....	0	0	.....	Prof. L. Palmieri.
Cagliari	29.67	753.5	29.85	758 2	86.0	30.0	44	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.02	737.0	29.85	758.2	86.9	30.5	60	NE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.69	754.1	29.93	760.3	82.8	28.2	41	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Syracuse	29.83	757.6	29.90	759.5	87.6	30.9	67	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. G. Caceiatore.
Sub-Series.																			
Naples, S. R.	29.40	746.7	29.95	760.8	80.8	27.1	68	WSW	8.7	3.9	.....	.....	2	SW	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.63	752.6	29.83	757.7	77.6	25.3	83	NE	4.2	1.9	.....	.....	2ck	.....	WSW	0.003	0.08	Fair	.....
Tokei (Yeddo) Observatory.	29.86	758.4	29.92	759.9	72.1	22.3	90	ESE	4.4	2.0	.....	.....	10ks;s;	ck].....	.....	0.040	10 16?	Cloudy.....	I. Arai, Director.
Tokei (Yeddo) University..	29.81	757.2	29.91	759.7	71	21.7	97	NE	4	1.8	.....	3cs	4ks	.....	.....	0	0	Fair.....	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cuernavaca	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Guadalajara	25.01	635.3	29.94	760.4	64.4	18.0	99	E	1.8	0.8	.....	0	10n	.....	SE	1.74	44.0	Covered.....	L. Castillo, A. E.
Guanajuato	23.66	601.0	29.79	756.7	60.8	16.0	91	NE	0.9	0.4	.....	0	9	.....	SE	1.72	43.6	Very cloudy	Prof. L. Perez.
Leon	24.38	619.1	29.86	758.5	64.9	18.3	68	Calm	0	0	.....	0	8	.....	SW	0	0	Very cloudy	Prof. V. Fernandez
Mexico	23.06	585.5	30.03	762.7	64.8	18.2	78	NW	0.9	0.4	.....	7ck	2s	NE	.....	0	0	Very cloudy	Prof. M. Leal.
Pabellon, (Aguascalts)	.....	.....	.....	.....	57.2	14.0	95	Calm	0	0	.....	0	10n	.....	.....	0.92	23.0	Light rain...	Central Observatory.
Puebla	23.30	591.7	29.88	759.0	64.2	17.9	74	NNE	0.9	0.4	.....	0	10ks	.....	E	0	0	Covered.	M. V. de Leon, M. E
Tlacotalpam	29.77	756.1	29.78	756.4	57.6	14.2	95	ESE	1.8	0.8	.....	0	10ks	.....	S	0.62	15.7	Rainy...	Prof. B. Gonzalez.
San Luis Potosi	24.25	615.1	30.05	763.4	76.1	24.5	94	Calm	0	0	.....	0	10ks	.....	E	0.63	16.0	Threatening	Prof. F. R. Bayly.
Vera-Cruz	29.86	758.4	29.89	759.1	62.0	16.7	34	SE	0.9	0.4	.....	0	10	.....	E	0.05	1.2	Covered	G. Barroeta, M. D.
Zacatecas	.....	.....	.....	.....	78.8	26.0	88	Calm	0	0	.....	0	3kn	.....	.....	0	0	Foggy.....	Prof. J. Rossell.
Puebla, (Catholic Institute).	23.25	590.5	29.98	761.5	57.2	14.0	90	NNE	1.8	0.8	.....	9	0	NE	.....	0.24	6.0	Cloudy.....	J. A. Bonilla, M. E.
Durango	.....	.....	.....	.....	56.7	13.7	90	SE	1.1	0.5	.....	0	10	.....	.....	1.02	26.0	Covered.....	Prof. P. Spina, [M.M.D.D
Colima	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
San Juan E. Michapam	28.30	718.7	29.92	759.9	79.2	26.2	81	SE	1.8	0.8	.....	0	5	.....	SW	0.74	18.8	½ cloudy.....	R. Banda, C. E.
.....	29.66	753.4	29.81	757.1	77.5	25.3	.....	Calm	0	0	.....	0	6	.....	E	0.07	1.8	½ cloudy.....	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.5 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.67	753.6	29.67	753.6	69.1	20.6	.....	WSW	.....	.....	4	.....	.....	.....	.....	0.181	4.6	.....	
Groningen	29.55	750.6	29.61	752.0	65.1	18.4	.....	W	.....	.....	3	.....	.....	.....	.....	0.228	5.8	.....	
Helder	29.61	752.0	29.61	752.0	68.0	20.0	.....	SW	.....	.....	2	.....	.....	.....	.....	0.051	1.3	.....	
Hellevoetsluis	29.63	752.5	29.63	752.5	70.2	21.2	80	W	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.61	752.0	29.65	753.2	71.4	21.9	71	WSW	.....	.....	3	.....	5	.....	.....	0.276	7.0	Cloudy.....	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the v[illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.29	743.9	29.34	745.3	58.6	14.8	66	NNW	19.2	8.6	.....	.....	8	.....	.....	0	0	.....	
Brönö	29.20	741.6	29.24	742.6	53.6	12.0	89	Calm	0	0	.....	.....	10	.....	.....	0.354	9.0	.....	
Christiania	29.07	738.3	29.21	741.8	69.1	20.6	47	WNW	7	3	.....	.....	8	.....	.....	0	0	.....	
Tromsö	29.31	744.5	29.35	745.6	47.1	8.4	57	NE	38	17	.....	.....	10	.....	.....	0.020	0.5	Light rain	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.04	762.9	30.22	767.6	73.9	23.3	78	WSW	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.8	30.00	762.1	76.1	24.5	61	W	14.3	6.4	.....	.....	10	W	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.09	764.3	30.18	766.5	78 3	25.7	64	SW	1.8	0.8	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.5	30.02	762.4	72.3	22.4	82	SW	34.9	15.6	.....	.....	10	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.15	765.9	30.22	767.6	77.7	25.4	61	NE	11.2	5.0	.....	.....	6	.....	.....	0.051	1.3	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44′, W. 25° 41′	.....	.....	30.16	766.0	76.3	24.6	.....	N	.....	.....	2	.....	7	.....	N	2	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello, S. 25° 38′, E. 33° 52′	.....	.....	30.14	765.5	73.4	23.0	.....	SW	.....	.....	1	.....	3	.....	SW	2	.....	Blue sky	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	763.0	61.7	16.5	.....	WSW	.....	.....	3	.....	5	.....	WSW	2	.....	D. clouds	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sádo, N. 14° 53′, W. 23° 34′	.....	.....	30.04	762.9	83.3	28.5	.....	SSE	.....	.....	1	.....	2	.....	.....	3	SE	Blue sky	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.00	762.1	73.4	23.0	.....	W	.....	.....	2	.....	6	.....	W	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.19	741.4	29.60	751.7	69.8	21.0	51	W	22	10	.....	.....	3ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	28.89	733.9	29.29	744.0	65.3	18 5	86	WSW	4	2	.....	.....	6	.....	.....	.....	.....	Raining	Astronomical Obs.
Dorpat	28.90	734.1	29.13	740.0	64.9	18.3	94	SSW	7	3	.....	.....	10kn	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.19	741.3	29.20	741.7	62.4	16.9	93	ESE	11	5	.....	.....	10n	.....	.....	.....	.....	Raining	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[s;n	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.95	735.2	29.54	750.3	77.2	25.1	60	SW	13	6	.....	.....	7k;ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.73	755 1	29.80	756.9	81.7	27.6	48	SSW	18	8	.....	.....	4cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.84	757.9	29.86	758.4	77.7	25.4	60	SSE	7	3	.....	.....	4	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.00	736.6	29.51	749.6	77.2	25.1	58	S	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.52	749.7	29.71	754.6	87.8	31.0	34	SSW	18	8	.....	.....	5ks	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.34	745.2	29.36	745.7	68.0	20.0	63	SE	13	6	.....	.....	7k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.43	722.0	29.75	755.6	90.0	32.2	42	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.86	758.5	29.78	756.4	89.2	31 8	29	NNW	2	1	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.50	749.3	29.75	755.6	81.7	27.6	36	SSW	2	1	.....	.....	5k	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[ck;k	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.83	732.3	29.73	755.2	73.8	23.2	53	SW	7	3	.....	.....	7;n;c;	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.46	748.3	29.68	753.9	87.6	30.9	52	NNW	4	2	.....	.....	8k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.15	715 0	29.75	755.6	82.4	28.0	53	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.30	744.1	29.80	756.8	79 0	26.1	32	WNW	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.50	749.2	29.78	756.4	58.3	14.6	55	N	9	4	.....	.....	3	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.72	755.0	29.87	758.6	80.8	27.1	83	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	Lunar corona	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.69	754.1	29.79	756.6	85.1	29.5	60	S	2.1	0.94	.....	.....	2k	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.80	757.0	29.86	758.4	69.1	20.6	94	N	2.2	0.99	.....	.....	10	.....	.....	0.083	2.1	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.3	.....	.....	75.2	24.0	69	S	10.7	4.80	.....	.....	9	.....	.....	0	0	Almost cov.	Domingo Martin y Perez
Madrid, Royal Observatory	27.69	703.2	29.76	755.9	88.2	31.2	40	SW	17.9	8.00	.....	0	1	.....	.....	0	0	Clouds	The Staff.
Murcia, Met. Obs'y	29.64	752.9	29.78	756.4	104.2	40.1	26	SW	2.3	1.03	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	28.98	736.0	29.85	758.1	69.1	20.6	74	WSW	13.1	5.86	.....	.....	9	.....	.....	1.319	33.5	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.84	758.0	29.90	759.6	79.2	26.2	81	SE	15.9	7.1	.....	10ck;cs	4k	SW	SE	0.087	2.2	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.6	30.04	763.1	76.6	24.8	71	WSW	19.7	8.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	761.0	30.05	763.3	80.6	27.0	85	SE	2.2	1.00	.....	2s	5s	SE	SE	0.197	5.00	.....	Leonardo de Toleda, Ch't Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	25.28	743.8	29.32	744.8	60.4	15.8	.....	Calm	.....	.....	0	.....	4	.....	.....	0	0	.....	
Umea	29.16	740.6	29.21	741.9	61.2	16.2	75	SSE	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.11	739.3	29.16	740.6	58.6	14.8	97	E	.....	.....	2	.....	10	.....	.....	0.256	6.5	Raining	
Stockholm	28.93	734.7	29.10	739.2	57.6	14.2	91	NNW	.....	.....	2	.....	10	.....	.....	0.106	2.7	.....	
Wisby	29.08	738.7	29.14	740.2	64.4	18.0	67	WNW	.....	.....	8	.....	3	.....	.....	0.205	5.2	.....	
Sub-Series.																			
Upsala	29.04	737.6	29.11	739.5	57.6	14.2	95	NNW	6.7	3.0	.....	.....	10	.....	E	0.572	14.52	Raining.....	Nils Ekholm.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.44	722.3	29.81	757 2	72.7	22.6	57	SSW	.....	.....	1	.....	10	.....	.....	0.524	13.3	Covered.....	The Observatory.
Zurich	28.24	717.2	29.83	757.6	68.4	20.2	81	NW	.....	.....	2	.....	9	S	NW	0.488	12.4	Light rain...	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —5.5 m.m.; Thermometer, +0.8 cent.; Relative Humidity, +2 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.6	78.6	25.9	47	NE	4	2.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.02	762.6	86.2	30.1	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.64	752.8	29.75	755.6	90.3	32.4	59	W	.....	.....	2	.....	2k	.....	SE	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.02	762.5	30.09	764.3	70.9	21.6	80	SW	7	3.1	.....	2c	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.67	753.6	29.96	761.0	73	22 8	.....	SW	1	0.4	.....	0	2s	.....	SW	0	0	Clear.....	W. R. Bigg.
*Chatham, N B	30.08	764.0	30.14	765.5	63	17.2	91	S	4	1.8	.....	2c	0	S	.....	0	0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island	30.13	765.3	30.17	766.3	68	20.0	89	S	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.78	756.4	29.96	761.0	71.6	22.0	71	SW	.....	.....	1	6cs	0	SW	.....	0	0	Fair.....	James Smith, M. A.
Dalhousie, N. B	29.96	761.0	30.12	765.0	64	17.8	91	N	.....	.....	1	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.74	755.4	29.79	756.7	54.2	12.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.96	761.0	29.99	761.7	69	20.6	73	S	20	8.9	.....	5c	Haze	SW	Calm	0	0	Threatening	J. McWilliams.
Fredericton, N. B	30.12	765 0	30.19	766.8	61.0	16.1	88	S	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy.....	Prof. Harrison.
*Fort Garry Manitoba	29.20	741.7	30.02	762.5	51	10.6	96	NW	4	1.8	.....	2k	2ks	NW	NW	0	0	Fair.....	James Stewart.
Granton, Ontario	28.85	732.8	29.91	759 7	68	20.0	95	SW	.....	.....	1	.....	10n	.....	.....	0.26	6.6	Overcast....	James Grant.
*Halifax, N. S	30.01	762.2	30.14	765.5	67	19.4	96	SE	3	1.3	.....	0	2ks	.....	SE	0	0	Fair.....	F. Allison, M. A.
Hamilton, Ontario	29.58	751.3	29.93	760.2	72.5	22 5	82	SW	.....	.....	3	1c	0	SW	.....	0.26	6.6	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	30.23	767.8	30.25	768.3	60	15.6	82	W	.....	.....	1	0	10	.....	.....	0	0	Cloudy.....	E. Weedon.
*Kingston, Ontario	29.66	753.4	29.98	761.5	72	22.2	76	S	18	8.0	.....	2c	0	Calm	.....	0.05	1.3	Clear.....	S. Woods, M. A.
Little Glace Bay, N. S	30.20	767.1	30.23	767.8	75.0	23 9	.....	SW	5	2.2	.....	3k	0	SW	.....	0	0	Fair.....	C. H. Rigby.
*Montreal, Quebec	29.80	756.9	30.00	762.0	68	20.0	79	W	7	3.1	.....	2k	5s	W	Calm	0.18	4.6	Cloudy.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.22	742.2	29.88	758.9	69	20.6	90	S	7	3.1	.....	2cs	0	W	.....	0.24	6.1	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.21	741.9	29.93	760.2	69.7	20.9	95	SW	.....	.....	2	6k	0	.....	.....	0.21	5.3	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.26	743.2	29.92	760.0	71	21.7	90	S	11	4.9	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	30.15	765 8	30.19	766.8	60.5	15 8	.....	SW	2	0.9	.....	.....	.....	.....	.....	0	0	Foggy	Peter Grant.
Port Stanley, Ontario	29.31	744.5	29.92	760.0	72	22.2	75	W	8	3.6	.....	.....	8ks	.....	SW	Inap.	Inap.	Cloudy.....	M. Payne.
*Quebec, Quebec	29.73	755.1	30.04	763.0	66	18.9	89	Calm	.....	.....	0	.....	10n	.....	Calm	0	0	Cloudy.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.47	748.5	29.91	759.7	66	18.9	89	E	6	2.7	.....	Haze	0	.....	.....	0.24	6.1	Fair.....	W. H. McIntyre.
St. Andrews, N. B	30.11	764.8	30.16	766.1	59	15.0	93	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	30.02	762.5	30.18	766.6	63	17.2	91	S	2	0.9	.....	7k	0	.....	.....	0	0	Fine.....	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.2	29.87	758.7	66	18.9	89	S	9	4.0	.....	5k	2s	S	.....	0.02	0.5	Fair.....	K. Stewart.
Stayner, Ontario	29.11	739.4	29.85	758.2	72	22.2	80	SE	6	2.7	.....	2ck	0	W	.....	0.30	7.6	Fair.....	R. J. Cole.
Stratford, Ontario	28.67	728.2	29.90	759.4	66.9	19.4	88	W	10	4.5	.....	1c	2s	W	.....	0.325	8.26	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.19	766.8	30.21	767.3	75	23.9	75	SE	2	0.9	.....	0	2ks	.....	SE	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.57	751.1	29.94	760.5	70	21.1	90	S	4	1.8	.....	0	Sm'e	.....	.....	Inap.	Inap.	Smoky.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.0	16.1	88	SE	.....	.....	.....	0	2s	.....	.....	.....	.....	.....	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Fair.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.83	757.7	30.05	763.3	69	20.6	70	S	2	0.9	.....	8c	0	SW	.....	0	0	Fair	
Alpena, Michigan	29.16	740.7	29.78	756.4	67	19.4	84	Calm	0	0	.....	1ck	0	W	.....	0.02	0.5	Clear	
Atlantic City, New Jersey	30.08	764.0	30.09	764.3	70	21.1	100	SE	4	1.8	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Augusta, Georgia	29.88	758.9	30.06	763.5	75	23.9	95	SE	1	0.4	.....	.....	10s;fg	.....	S	1.44	36.6	Cloudy	
Baltimore, Maryland	30.00	762.0	30.05	763.3	74	23.3	90	NE	6	2.7	.....	.....	10s	.....	NE	0.01	0.3	Threatening	
Barnegat, New Jersey	30.06	763.5	30.08	764.0	72	22.2	90	N	6	2.7	.....	2k	8s	N	N	0	0	Cloudy	
Bismarck, Dakota	28.34	719.8	30.20	767.1	49	9.4	85	NW	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Boerne, Texas	28.49	723.6	.....	.....	78	25.6	82	NE	2	0.9	.....	.....	Fog	.....	NE	0	0	Foggy	
Boise City, Idaho	26.98	685.8	29.94	760.5	72	22.2	45	N	2	0.9	.....	5k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.97	761.2	30.12	765.0	66.5	19.2	84	E	4	1.8	.....	.....	10s;fg	.....	E;Calm	0	0	Cloudy	
Brackettville, Texas	28.81	731.8	29.79	756.7	77	25.0	86	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	29.00	736.6	30.00	762.0	48	8.9	93	NW	10	4.5	.....	0	0	.....	.....	0.01	1.0	Clear	
Brownsville, Texas	29.85	758.2	29.91	759.7	77	25.0	90	NE	2	0.9	.....	5cs	0	Calm	....	0	0	Fair	
Buffalo, New York	29.26	743.2	29.92	760.0	72	22.2	76	S	8	3.6	.....	5ck	2s	SW	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	87	30.6	52	Calm	.....	.....	0	5cs	2ks	Calm	W	0	0	Fair	
Burlington, Vermont	29.78	756.4	30.04	763.0	72	22.2	62	S	8	3.6	.....	1k	0	SW	.....	0	0	Clear	
Cairo, Illinois	29.63	752.6	30.00	762.0	78	25.6	73	S	4	1.8	.....	0	Haze	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	66	18.9	73	NE	.....	.....	1	.....	10s	.....	Calm	0	0	Cloudy	
Camp Grant, Arizona	25.18	639.6	29.98	761.5	69	20.6	70	Calm	.....	.....	0	.....	10s	.....	S	0	0	Cloudy	
Camp Verde, Arizona	26.71	678.4	30.20	767.1	74	23.3	76	W	.....	.....	1	.....	10s	.....	Calm	0.37	9.4	Cloudy	
Campo, California	27.30	693.4	29.87	758.7	60	15.6	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.12	765.0	30.13	765.3	80	26.7	87	SW	11	4.9	.....	2cs	0	SW	.....	0.78	19.8	Fair	
Cape Henry, Virginia	30.07	763.8	30.09	764.3	75	23.9	95	SW	10	4.5	.....	5ck	5s	SW	SW	0.52	13.2	Cloudy	
Cape Lookout, N. Carolina	30.10	764.5	30.12	765.0	82	27.8	79	SW	20	8.9	.....	5c	5ks	W	SW	1.00	25.4	Cloudy	
Cape May, New Jersey	30.06	763.5	30.09	764.3	72	22.2	90	E	8	3.6	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
Castroville, Texas	29.16	740.7	29.84	757.9	75	23.9	94	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.04	763.0	30.10	764.5	83	28.3	87	S	6	2.7	.....	.....	10s	.....	W	1.99	50.5	Cloudy	
Cheyenne, Wyoming	24.20	614.7	30.14	765.5	51	10.6	100	N	4	1.8	.....	.....	Fog	.....	Calm	0.02	0.5	Foggy	
Chicago, Illinois	29.17	740.9	29.82	757.4	69	20.6	75	S	7	3.1	....	0	Sm'e	.....	.....	0.04	1.0	Clear	
Cincinnati, Ohio	29.32	744.7	29.94	760.5	71	21.7	71	SE	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Cleveland, Ohio	29.25	74.9	29.95	760.7	68	20.0	74	S	3	1.3	.....	0	Haze	.....	Calm	0.16	4.1	Clear	
Coleman City, Texas	28.25	717.5	29.85	758.2	72	22.2	50	Calm	0	0	.....	0	Haze	.....	.....	0	0	Hazy	
Columbus, Ohio	29.16	740.7	29.97	761.2	67	19.4	79	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.06	712.7	29.70	754.4	67	19.4	89	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.52	749.8	29.97	761.2	73	22.8	90	E	2	0.9	.....	0	0	.....	....	0	0	Clear	
Davenport, Iowa	29.32	744.7	29.93	760.2	66	18.9	79	NW	4	1.8	.....	.....	10s	.....	NW	0.01	0 3	Cloudy	
Denison, Texas	29.20	741.7	29.96	761.0	76	24.4	82	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.93	633.2	30.15	765.8	60	15.6	65	NW	8	3.6	.....	0	5s	.....	NW	0	0	Fair	
Des Moines, Iowa	29.07	738.4	29.91	759.7	71	21.7	71	Calm	.....	.....	0	.....	10s	.....	NW	0.15	3.8	Cloudy	
Detroit, Michigan	29.26	743.2	29.90	759.4	68	20.0	74	SW	5	2.2	.....	2k	5s	SW	SW	0.09	2.3	Fair	
Dodge City, Kansas	27.42	696.5	29.64	752.8	62	16.7	94	SE	26	11.6	.....	5ck	5ks	W	SW	0	0	Cloudy	
Dubuque, Iowa	29.11	739.4	29.78	756.4	65	18.3	84	W	2	0 9	.....	2k	5n	Calm	W	0.15	3.8	Light rain	
Duluth, Minnesota	29.16	740.7	29.82	757.4	57	13.9	75	NW	24	10.7	.....	5cs	0	NW	.....	0	0	Fair	
Eagle Pass, Texas	29.15	740.4	29.85	758.4	76	24.4	82	Calm	0	0	....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.08	761.0	30.15	765.8	60	15.6	88	N	2	0.9	.....	.....	Fog	..... .	Calm	Inap.	Inap.	Foggy	
El Paso, Texas	.....	.....	.....	.....	79	26.1	54	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.24	742.7	29.92	760.0	71	21.7	80	S	8	3.6	.....	2ck	0	.....	.....	0	0	Fair	
Escanaba, Michigan	29.13	739.9	29.75	755.6	65	18.3	84	W	6	2.7	.....	5k	0	W	.....	0	0	Fair	
Florence, Arizona	.....	.....	.....	.....	80	26.7	59	Calm	.....	.....	0	5k	0	W	.....	0.20	5.1	Fair	
Fort Craig, New Mexico	25.55	649.0	29.61	752.1	68	20.0	60	N	4	1.8	.....	5c	0	N	.....	0	0	Fair	
Fort Davis, Texas	25.26	641.6	30.22	767.6	64	17.8	61	NE	3	1.3	.....	2c	0	NW	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.45	748.0	29.97	761.2	72	22.2	85	E	1	0.4	.....	5c	2s	N	Calm	0	0	Fair	
Fort Griffin, Texas	28.70	729.0	29.92	760.0	71	21.7	85	Calm	0	0	.....	2c	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.78	705.6	29.62	752.3	75	23.9	81	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.83	757.7	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.22	716.8	29.71	754.6	76	24.4	73	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.90	759.4	29.94	760.5	82	27.8	79	W	7	3.1	.....	0	5ks	... .	S	0	0	Fair	
Graham, Texas	28.78	731.0	29.78	756.4	74	23.3	86	S	2	0.9	.....	2c	0	NW	.....	0	0	Fair	
Grand Haven, Michigan	29.20	741.7	29.81	757.2	75	23.9	72	SW	12	5.4	.....	Haze	0	Calm	.....	0	0	Clear	
Indianapolis, Indiana	29.20	741.7	29.94	760.5	68	20.0	79	NE	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Clear	
Indianola, Texas	29.02	760.0	29.94	760.5	81	27.2	91	NE	6	2.7	.....	1k	2ks	Calm	NE	0.03	0.8	Fair	
Jacksboro, Texas	28.85	732.8	29.93	760 2	75	23.9	81	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.03	762.7	30.05	763.3	80	26.7	87	E	4	1.8	.....	8k	0	W	.....	0.11	2.8	Cloudy	
Keokuk, Iowa	29.59	744.0	29.88	758.9	71	21.7	80	W	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy	
Key West, Florida	29.91	759.7	29.94	760.5	83	28.3	71	SE	19	8.5	.....	9c;k	1ks	Calm;SE	SE	0	0	Cloudy	
Kittyhawk, North Carolina	30.09	764.3	30.12	765.0	79	26.1	91	SW	13	5.8	.....	5cs	0	SW	.....	0	0	Fair	
Knoxville, Tennessee	29.06	738.1	30.03	762.7	67	19.4	100	Calm	0	0	.....	.....	Fog	.....	Calm	0.06	1.5	Dense fog	
La Crosse, Wisconsin	29.13	739.9	29 84	757.9	65	18.3	78	SW	5	2.2	.....	.....	10s	.....	W	Inap.	Inap.	Cloudy	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	68	20.0	65	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.49	749.0	29.81	757.2	81	27.2	83	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.98	634.5	30.26	768.6	51	10.6	79	S	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Leavenworth, Kansas	29.11	739.4	29.91	759.7	71	21.7	85	W	6	2.7	.....	.....	10ks	.....	NW	0.37	9.4	Cloudy	
Los Angeles, California	29.47	748.5	29.80	756.9	66	18.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.43	747.5	29.96	761.0	72	22.2	67	S	2	0.9	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.35	745.5	30.00	762.0	77	25.0	82	SE	1	0.4	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.06	738.1	29.72	754.9	65	18.3	78	W	8	3.6	.....	10k	0	W	.....	0.18	4.6	Cloudy	
Mason, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Memphis, Tennessee	29.69	754.1	29.99	761.7	76	24.4	72	NE	1	0.4	.....	0	Pgsam	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.12	739.6	29.81	757 2	67	19.4	74	W	12	5.4	.....	1c	0	.....	.....	0.02	0.5	Clear	
Mobile, Alabama	29.94	760.5	29.98	761.5	78.5	25.8	91	S	4	1.8	.....	1ck	1s	Calm	Calm	1.11	28.2	Fair	
Montgomery, Alabama	29.78	756.1	30.00	762.0	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.96	735.6	29.97	761.2	72	22.2	80	SE	2	0.9	.....	5c	Sm'e	SE	Calm	0.01	0.3	Fair	
Mt. Washington, N. H.	24.04	610.6	30.40	772.1	49	9.4	77	SW	20	8.9	.....	5ck	Haze	SW	Calm	0	0	Fair	
Nashville, Tennessee	29.48	748.5	29.99	761.7	75	23.9	77	NE	2	0.9	.....	Haze	0	Calm	.....	0	0	Hazy	
New Haven, Connecticut	29.98	761.5	30.10	764.5	67	19.4	89	NE	8	3.6	.....	.....	10s	... .	....	0	0	Cloudy	
New London, Connecticut	30.04	763.5	30.10	764.5	68	20.0	90	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	29.88	758.9	29.94	760.5	81	27.2	74	N	6	2.7	.....	0	0	.....	.....	0.05	1.3	Clear	
Newport, Rhode Island	30.06	763.5	30.10	764.5	69	20.6	90	N	4	1.8	.....	.....	10ks	.....	NE	0	0	Threatening	
New York, New York	29.93	760.2	30.10	764.5	71	21.7	85	E	1	0.4	.....	.....	8ks;fg	.. ..	Calm	0	0	Cloudy	
Norfolk, Virginia	30.03	762.7	30.08	764.0	77	25.0	91	S	10	4.5	.....	8ck;k	2s	SW;Calm	S	0.44	11.2	Cloudy	
North Platte, Nebraska	27.19	690.6	29.71	754.6	58	14.4	88	NE	8	3.6	.....	0	0	.....	.....	0.87	22.1	Clear	
Olympia, Washington Ter.	29.81	757.2	29.85	758.2	51	10.6	86	E	2	0.9	.....	1c	Fog	Calm	Calm	0	0	Fair	
Omaha, Nebraska	28.85	733.0	29.91	759.7	64	17.8	89	N	12	5.4	.....	5k	5s	N	Calm	0.04	1.0	Cloudy	
Oswego, New York	29.69	754.1	30.00	762.0	70	21.1	75	S	6	2.7	.....	2cs	0	SW	.....	1.32	33.5	Fair	
Pembina, Dakota	29.19	741.4	30.01	762 2	48	8.9	93	NW	10	4.5	.....	0	2s	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	30.03	762.7	30.08	764.0	71	21.7	85	E	6	2.7	.....	.....	10s	.....	E	0	0	Cloudy	
Phœnix, Arizona	28.64	727.4	.....	.....	91	32.8	42	SW	.....	.....	1	2c	0	SW	.....	0	0	Fair	

UNITED STATES SERIES.—Continued.

Stations.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.10	459.7	30.31	769.9	45	7.2	24	N	10	4.5		5k	0	N		0	0	Fair	
Pioche, Nevada	24.11	612.4	29.88	758.9	61	16.1	88	W	2	0.9			10n		Calm	0.12	3.0	Light rain	
Pittsburg, Pennsylvania	29.18	741.2	29.96	761.0	70	21.1	80	Calm	0	0		2c	Fog	Calm	Calm	0	0	Fair	
Port Huron, Michigan	29.24	742.7	29.87	758.7	69	20.6	75	SW	9	4.0		2ck	5ks	W	W	0.07	1.8	Fair	
Portland, Maine	30.10	764.5	30.14	765.5	63	17.2	89	Calm	0	0			Fog			0	0	Foggy	
Portland, Oregon	29.82	757.4	29.93	760.2	55	12.8	87	Calm	0	0		0	1ks;fg		Calm	0	0	Clear	
Prescott, Arizona	24.83	630.7	30.19	766.8	61	16.1	82	Calm			0	5cs	0	Calm		0.02	0.5	Clearing	
Pilot Point, Texas	29.22	742.2	30.01	762.2	73	22.8	90	SE	1	0.4		0	0			0	0	Smoky	
Punta Rassa, Florida	29.96	761.0	29.98	761.5	82	27.8	75	SE	17	7.6		5cs	0	SW		0	0	Fair	
Red Bluff, California	29.36	745.7	29.69	754.1	79	26.1	54	W	8	3.6			10ks		Calm	Inap	Inap.	Cloudy	
Rochester, New York	29.37	746.0	29.96	761.0	70	21.1	75	SW	6	2.7		1c	0	W		0.18	4.8	Clear	
Roseburg, Oregon	29.34	745.2	29.90	759.4	55.4	13.1	87	Calm	0	0		8c;cs	Sm'e	S.Calm	Calm	0	0	Fair	
Sacramento, California	29.63	752.6	29.72	754.9	67	19.4	67	S	2	0.9		5ck	5s	Calm	Calm	0	0	Cloudy	
St. Louis, Missouri	29.42	747.3	29.96	761.0	73	22.8	76	SW	6	2.7		0	5s		Calm	0	0	Fair	
St. Marks, Florida	29.99	761.7	30.00	762.0	76	24.4	95	NE	4	1.8		2k	8s	SE	SE	0.36	9.1	Cloudy	
St. Paul, Minnesota	29.07	738.4	29.87	758.7	58	14.4	76	NW	8	3.6		0	0			Inap	Inap.	Clear	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	71	21.7	33	Calm	0	0			10s		Calm	0	0	Cloudy	
San Antonio, Texas	29.24	742.7	29.80	756.9	76	24.4	91	SE	2	0.9		0	0			0.05	1.3	Clear	
San Diego, California	29.74	755.4	29.81	757.2	68	20.0	90	N	6	2.7		0	0			0	0	Clear	
Sandusky, Ohio	29.33	744.5	29.95	760.7	70	21.1	70	SW	7	3.1		0	0			0	0	Clear	
Sandy Hook, New Jersey	30.08	763.5	30.09	764.3	69	20.6	95	E	5	2.2			10ks		E	0	0	Cloudy	
San Francisco, California	29.73	755.1	29.80	756.9	56	13.3	87	SW	11	4.9			Fog		Calm	0	0	Foggy	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	60	15.6	44	E	2	0.9		1c	0	Calm		0	0	Clear	
Savannah, Georgia	29.98	761.5	30.07	763.8	86	30.0	76	SW	8	3.6		2cs	2ks	Calm	SW	1.09	27.7	Cloudy	
Shreveport, Louisiana	29.76	755.9	29.98	761.5	77	25.0	82	Calm	0	0		0	0			0	0	Clear	
Silver City, New Mexico	24.37	619.0			60	15.6	76	Calm	0	0		8cs	0	Calm		0	0	Cloudy	
Smithville, North Carolina	30.10	764.5	30.13	765.3	81	27.2	83	S	7	3.1		8cs	0	S		0.92	23.4	Cloudy	
Springfield, Massachusetts	29.92	760.0	30.05	763.3	67	19.4	74	NE	2	0.9			10s		NE	0	0	Cloudy	
Stockton, Texas	26.94	684.3	29.94	760.5	65	18.3	89	SE	3	1.3		4c	0	SE		0	0	Fair	
Thatcher's Island, Mass	30.08	764.0	30.13	765.3	65	18.3	94	NE	6	2.7			10s		N	0	0	Cloudy	
Toledo, Ohio	29.24	742.7	29.88	758.9	70	21.1	70	S	8	3.6		5c	5s	Calm	S	0	0	Cloudy	
Tucson, Arizona	27.23	691.6	29.78	756.4	89	31.7	52	Calm	0	0		8k	0	S		0	0	Fair	
Tybee Island, Georgia	30.04	763.0	30.06	763.5	84	28.9	79	S	9	4.0		2ck	2ks	W	NW	0.02	0.5	Fair	
Umatilla, Oregon	29.41	747.0			64	17.8	48	SE	4	1.8		0	8s		Calm	0	0	Fair	
Uvalde, Texas	29.03	737.3	29.82	757.4	79	26.1	78	Calm	0	0		0	0			0	0	Clear	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	76	24.4	86	Calm	0	0		0	0			0	0	Clear	
Virginia City, Montana	24.32	617.7	29.79	756.7	64	17.8	48	SE	8	3.6		0	Haze			0	0	Clear	
Visalia, California	29.41	747.0	29.76	755.9	71	21.7	58	S	4	1.8		0	0			0	0	Clear	
Washington, D. C	29.94	760.5	30.05	763.3	73	22.8	100	Calm	0	0			10n;fg		Calm	0.02	0.5	Light rain	
Wickenburg, Arizona					74	23.3	81	Calm			0	0	8ks		S	0.48	12.0	Fair	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	79	26.1	90	Calm	0	0		5c	2s	Calm	Calm	0.37	9.4	Fair	
Winnemucca, Nevada	25.58	649.7	29.94	760.5	69	20.6	56	SW	14	6.3		5k	5s	Calm	SW	Inap.	Inap.	Cloudy	
Wood's Holl, Mass	30.05	763.3	30.11	764.8	69	20.6	90	N	2	0.9			10s			0	0	Cloudy	
Yankton, Dakota	28.79	731.3	30.06	763.5	56	13.3	81	N	9	4.0		0	2s		NW	0.01	0.3	Fair	
Yuma, Arizona	29.56	750.8	29.72	754.9	84	28.9	61	Calm	0	0		0	2s		Calm	Inap.	Inap.	Fair	
Sub-Series.																			
St. Paul's Island, Alaska																			
York Factory, B. A	29.75	755.6	29.80	756.9	54.0	12.2	87	E	15	6.7		0	2s		E	0.10	2.5	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.88	758.9	29.90	759.4	79	26.1	82	SE	9.0	4.3		10c	4ks	Calm	SE	0.09	2.3	Cloudy	Chas. Hasselbrink.
St. Thomas					82	27.8	79	SE	4	1.8		2c	4ks	E		0	0	Clear.	G. O. Gellich.
Kingston, Jamaica, W. I	30.11	764.8	30.12	765.0	78	25.0	90	Calm	0	0		10c	8n	Calm		2.94	74.7		James Gall.
Navassa, W. I	29.89	759.2	29.97	761.2	83	28.3		E	16.7	7.5						0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.01	762.2	30.01	762.2	84	28.9	75	E			2	5ck	6k	E		0	0	Fair	C. J. Hering
Medellin, Colombia, S. A	25.24	641.1			67.8	19.9	76					4ck	0			0.02	0.5		Thomas Herran.

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.: Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.10	764.5	83	28.3	83	28.3	81	NE	1	0.4	.....	.....	5	.....	SE	4.27§	108.5§	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.12‡	765.0‡	.....	.....	71	21.7	71	ENE	2	0.9	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.90*	759.4*	74.2	23.4	73	22.8	90	Calm	.....	.....	0	.....	10k;s	.....	NW	0	0	.....	.....	Cloudy.....	
Adams. Apia, Samoan Islands	30.06	763.5	78	25.6	77	25.0	95	SSW	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Pleasant.....	
Alliance, Gibraltar	29.98‡	761.5‡	.....	.....	75	23.9	72	W	.....	.....	3	.....	1	.....	W	.....	.....	Light	SW	Clear.....	
Ashuelot. Kobe, Japan	29.94	760.5	84	28.9	80	26.7	78	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Alaska. S. 29° 52′, W. 45° 18′	30.45	773.4	64	17.8	59	15.0	65	SSW	.....	.....	5	.....	5	.....	SW	0.01	0.3	Mod'ate	SW	D. clouds.....	
Canonicus, New Orleans, La	29.98	761.5	56	13.3	85	29.4	64	NNE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	29.94‡	760.5‡	.....	.....	73	22.8	85	E	1	0.4	....	.....	10	.....	S	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.67‡	753.6‡	.....	.....	67	19.4	84	SW	.....	.....	3	.....	10	.....	WSW	.....	.....	.....	.....	Overcast.....	
Despatch. Volo, Turkey	29.89‡	759.2‡	.....	.....	82	27.8	63	SSE	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	30.21	767.3	77	25.0	76	24.4	95	SW	9.6	4.3	....	.....	8	.....	SW	0.54	13.7	.....	.....	Fair.....	
Gettysburg Villafranca, France	29.75‡	755.6‡	.....	.....	83	28.3	96	ESE	.....	.....	1	.....	2	.....	ESE	0	0	Light	S	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.35	770.9	62	16.7	62	16.7	83	WSW	7.2	3.2	.....	.....	10	.....	WSW	1.0	25.	.....	.....	Cloudy.	
Marion, Villafranca, France	29.84	757.9	79	26.1	79	26.1	82	SE	.....	.....	2	.....	0	.....	.....	0	0	Smooth	S	Clear.....	
Michigan, Green Bay, Wisconsin	29.39	746.5	72	22.2	67	19.4	79	SSW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.90‡	759.4‡	.....	.....	74	23.3	86	E	.....	.....	1	.....	10	.....	SSW	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.26†	768.6†	.....	.....	81	27.2	87	S	11	4.9	.....	.....	8	.....	S	0.88	22.4	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.09†	764.3†	.....	.....	61	16.1	82	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	30.04‡‡	763.0‡‡	.....	.....	75	23.9	95	Calm	.....	.....	0	.....	10	.....	W	0.3	8.	.....	.....	Cloudy.....	
Palos, Tientsin, China	29.96	761.0	83	28.3	79	26.1	86	E	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Pensacola, Mare Island, California	29.86	758.4	64	17.8	56	13.3	93	SW	8	3.6	.....	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Plymouth. New York, N. Y.	30.31	769.9	73	22.8	72	22.2	85	N	.....	.....	0-1	.....	10	.....	N	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	29.95	760.7	82	27.8	82	27.8	87	SE	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Rio Bravo, Brownsville, Texas	29.85	758.2	77	25.0	77	25.0	95	NNE	.....	.....	1	.....	5	....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	30.02‡	762.5‡	.....	.....	76	24.4	95	ESE	.....	.....	1	.....	10	.....	.....	0.01	0.3	.....	.....	Foggy	
St. Louis, League Island, Pa	30.03	762.7	75	23.9	72	22.2	90	NE	6	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	29.76	755.9	68	20.0	68	20.0	70	WSW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
Swatara, Boston, Mass.	30.09‡	764.3‡	.....	.....	67	19.4	84	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Foggy.....	
Trenton. Cherbourg, France	29.66‡	753.4‡	.....	.....	67	19.4	69	WSW	.....	.....	3-4	.....	7	.....	S;W	0.2	5.	.....	.....	Cloudy.....	
Tuscarora. Acapulco, Mexico	29.67	753 6	77	25.0	78	25.6	91	Calm	.....	.....	0	.....	10	.....	.....	1.55	39.4	.....	.....	Cloudy.....	
Vandalia. Villafranca, France	29.79‡	756.7‡	.....	.....	79	26.1	78	SE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	.....	
Wabash, Boston, Mass.	30.12‡	765.0‡	.....	.....	66	18.9	89	NE	2	0.9	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy	
Wyoming, N. 35° 45′, W. 73° 48′	30.03†	762.7†	.....	.....	75	23.9	95	SE	.....	.....	0-1	.....	10	.....	S	.....	.....	Light	S	Overcast.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. §Amount of rain-fall during past 15 days. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 40° 12′, W. 164° 48′		30.45*	773.4*	71	21.7	100	WSW			1		5		SW	0	Light	WNW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 46° 30′, W. 124° 14′		30.00†	762.0†				NNW			2						Light	NW	Misty.	Capt. Seabury.
S. S. City of Peking, N. 25° 31′, E. 120° 45′		29.91†	759.7†	80	26.7	96	SSE	19	8.5			8		SSE		Smooth		D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		29.82†	757.4†	68	14.4	76	Calm			0		10						Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, New York, N. Y.		29.98*	761.5*	80	26.7		S			2				S	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 43° 24′, W. 58° 12′		30.24†	768.1†	65	18.3	??	SE			3		10			0	None		Misty	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 39° 56′, E. 160° 48′		29.76*	755.9*	68	20.0	90	SE			2		Fog		SE		Smooth	S	Misty	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic																			Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 52° 10′, E. 2° 56′		29.58	751.3	71	21.7	66	SW			4		2		SW		3	SW	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.			CHARACTER.	DIRECTION FROM—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		29.36*	745.7*	66	18.9	89	WNW			3		5		ESE	Heavy			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.04	763.0	73	22.8	95	NE			1		10		NE	0	1		Dull	Captain Morrison.
S. S. Pennsylvania, N. 47° 33′, W. 27° 12′		30.09†	764.34	66	18.9	89	NNW			3		4		NNW	Blank				Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 45° 43′ W. 36° 08′		30.29*	769.4*				N	15	6.7			6		N		Heavy	N	D clouds	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, N. 40° 32′, W. 71° 37′		29.99	761.7	72	22.2	90	Calm	0	0			Fog			0	Swell	SE	Foggy	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		29.91*	759.7*	45.0	7.2		NE			2		10s			0.36 in or 9.1 mm.			Raining	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 16, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI. (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.91	759.7	86.0	30.0	59	N	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Kesxuche.
Algiers	.....	.....	29.82	757.4	91.0	32.8	37	WNW	.....	.....	8	.....	0	.....	.....	0	0	Clear.....	Tourliere.
La Calle	.....	.....	29.89	759 1	89.1	31.7	60	NW	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Foufrede.
Tunis	.....	.....	29.91	759.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.00	762.0	89.6	32.0	.....	SSE	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30.00	762.1	93.6	34.2	26	N	.....	.....	3	.....	1	.....	.....	0	0	Very fair....	Herbin.
Tebessa	.....	.....	29.93	760.3	96.4	35.8	.....	N	.....	.....	3	.....	1	.....	.....	0	0	Very fair....	Watrin.
Geriville	.....	.....	30.05	763.2	91.4	33.0	57	SE	.....	.....	3	.....	4	.....	.....	0	0	Cloudy.....	Brugnlaux.
Laghouat	.....	.....	30.01	762.3	99.0	37.2	24	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	29.94	760.4	101.8	38.8	26	SSE	.....	.....	2	.....	1	.....	.....	0	0	Very fair....	Chauvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m.,or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.20	741.7	29.71	754.6	86.7	30.4	35	SW	.....	.....	5	.....	0	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.01	736.9	29.76	755.9	64.0	17.8	97	NE	.....	.....	1	.....	10	.....	.....	0.850	21.6	.....	Dr. Wierzbiski
Eperies	28.89	733.7	29.72	754.9	77.4	25.2	81	S	.....	.....	2	.....	10k	.....	.....	0.118	3.00	.....	Julius Miköik.
Gratz	28.50	723.8	29.67	753.5	81.9	27.7	56	SW	.....	.....	4	.....	4	.....	.....	0.020	0.50	.....	Andreas Rospini.
Hermannstadt	28.47	723.2	29.80	756.8	85.5	29.7	49	SE	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.46	722.8	29.75	755.7	66.2	19.0	87	W	.....	.....	1	.....	10cs	.....	.....	0.354	9.0	.....	Prof. O. Wagner
Lemberg	28.77	730.7	29.70	754.3	77.0	25.0	71	SE	.....	.....	2	.....	6	.....	.....	0.657	16.7	.....	Dr. T. Stanecki.
Pola	29.67	753.6	29.78	756.3	80.6	27.0	79	SE	.....	.....	4	.....	1s	.....	.....	0	0	Foggy	I. R. Hydrographic Office
Szathmar	29.35	745.6	29.55	750.6	86.9	30.5	51	S	.....	.....	4	.....	3	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.69	754.1	29.79	756.7	87.1	30.6	50	SW	.....	.....	1	.....	2	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.06	738.1	29.75	755.6	71.1	21.7	79	Calm	.....	.....	0	.....	10	.....	.....	0.028	0.7	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.071	1.8	.....	Prof. M. Passau.
Brussels	29.31	741.4	29.50	749.3	68.7	20.4	71	SW	.....	.....	4	3	2	SW	SW	0.898	22.80	.....	Royal Observatory
Furnes	29.47	748.4	29.49	749.0	69.6	20.9	68	SSW	.....	.....	3	.....	8	.....	.....	0.063	1.6	.....	M. E. de Cae.
Maeseyck	29.44	747.8	29.57	751.0	70.7	21.5	68	SW	.....	.....	4	.....	4	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

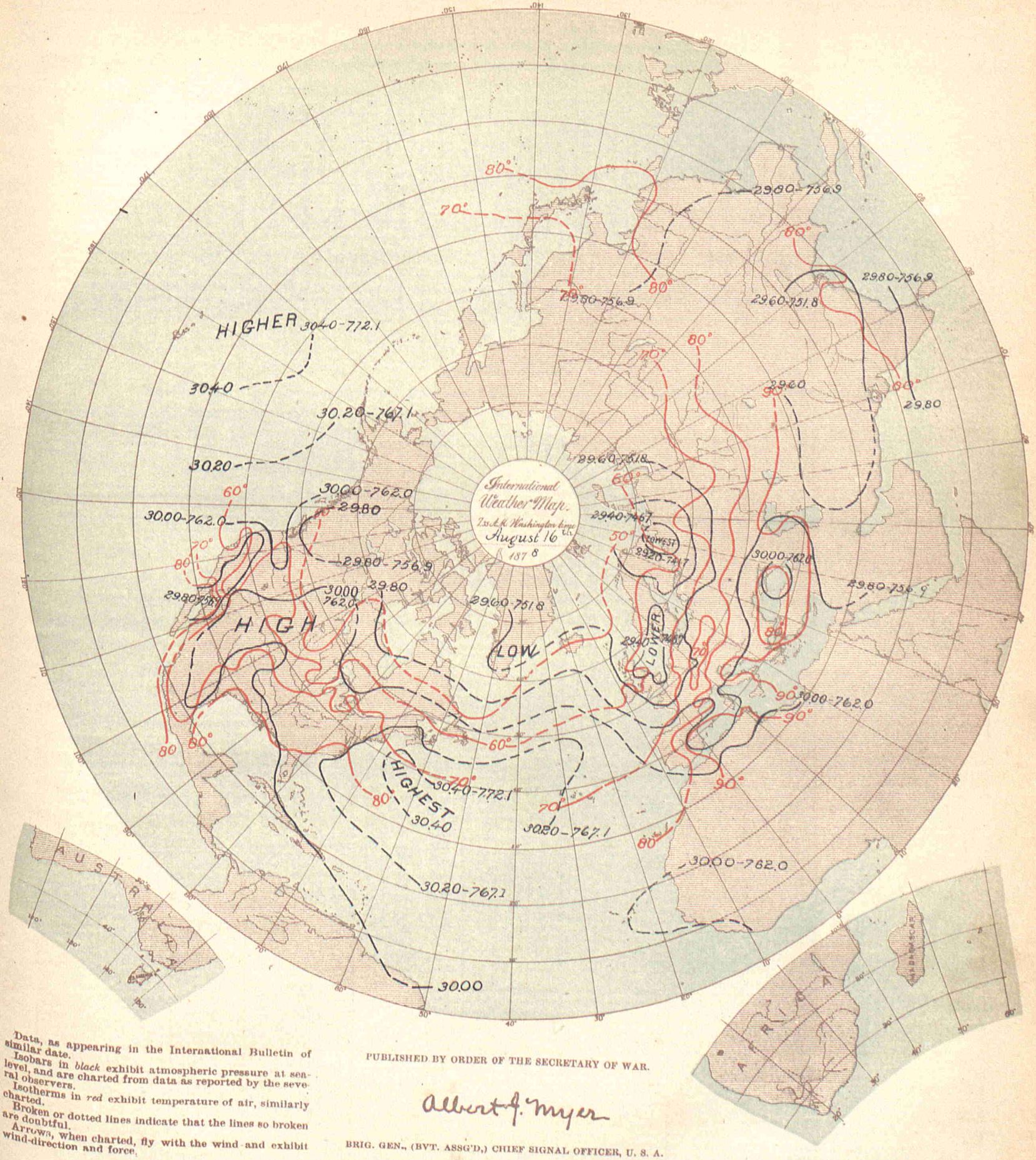
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.31	744.5	29.41	747.0	55.0	12.8	.....	NE	24	10.7	.....	.....	7	.....	.....	0.090	2.29	Squally	W. Boswell.
Ardrossan	29.35	745.5	29.36	745.7	60	15.6	.....	NNW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds..	George Carrick.
Armagh, Observatory	.....	.....	29.62	752.3	57.1	13.9	.....	NNW	7	3.1	.....	.....	10	.....	.....	.....	.....	Drizzling	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.40	746.7	61.9	16.6	.....	W	16	7.2	.....	.....	8	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	29.37	746.0	29.56	750.8	62.3	16.8	.....	NNW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.01	736.8	29.41	747.0	56.7	13.7	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....
Bridgetown, (Barbados)	29.98	761.5	30.02	762.5	79	26.1	.....	W	.....	.....	2	.....	5?	.....	.....	0.25	6.3	Overcast	J. McLandsborough.
Cambridge, Observatory	.....	.....	29.40	746.7	66.0	18.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast?..	Pvt. G. W. Roberts, A.
Cardington	.....	.....	29.41	747.0	64.4	18.0	.....	SW	.....	.....	1	.....	10	.....	.....	Blank	Blank	Thunder	H. Todd. [H.O.
Chatham, School M. E	29.26	743.2	29.39	746.5	69.7	20.9	.....	S	.....	.....	3	.....	5	.....	.....	Blank	Blank	Overcast	John McLaren.
Dartmoor	28.25	717.5	29.68	753 9	59.0	15.0	.....	NW	.....	.....	4	.....	7	.....	.....	.....	.....	Blue sky	Lt. W. G. Morris, R. E.
Donaghadee	29.42	747.3	29.45	748.0	60	15.6	.....	NNW	.....	.....	4	.....	5	.....	.....	.....	.....	Showery	Alexander Watt.
Dover	29.40	746.7	29.43	747.5	65	18.3	.....	WSW	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Eccles, (near Manchester)	.....	.....	29.38	746.2	61.0	16.1	.....	NW	3.4	1.5	.....	.....	10	.....	.....	.....	.....	Showery	J. Costello.
Falmouth, Observatory	29.33	745.0	29.55	750.6	62.2	16.8	.....	WNW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast	Thomas Mackereth.
Fort Napier, (Natal)	27.84	707.1	30.14	765.5	69.2	20.7	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Overcast	The Staff.
Free Town, (Sierra Leone)	29.81	757.2	30.04	763.0	79	26.1	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	Blue sky	Pvt. G. Salmon, A.H. C.
Galway, Queen's College	.....	.....	29.58	751.3	60	15.6	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds	
Gibraltar, (Mediterranean)	29.84	757.9	29.89	759.2	76.0	24.4	.....	W	.....	.....	5	.....	2	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Glasgow, Observatory	29.16	740.7	29.37	746.0	62.0	16.7	.....	WNW	.....	.....	2	.....	9	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Great Yarmouth	29.41	747.0	29.41	747.0	64	17.8	.....	SSE	.....	.....	4	.....	4	.....	.....	.....	.....	Gloomy	D. G. Maclean.
Greenwich, Royal Obs'y	29.22	742.2	29.39	746.5	67.0	19.4	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	Thunder	G. T. Watson.
Guernsey	29.29	744.0	29.51	749.5	64	17.8	.....	WNW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds	The Staff, for G. B. Airy.
Helston	.....	.....	29.59	751.6	64	17.8	.....	SW	.....	.....	2	.....	3c	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Holyhead	29.40	746.7	29.45	748.0	57	13.9	.....	WSW	.....	.....	5	.....	10	.....	.....	0.15	3.8	Showery	M. P. Moyle.
Jersey	29.27	743.4	29.55	750.6	64.2	17.9	.....	W	.....	.....	6	.....	7	.....	.....	.....	.....	Raining	John Tilston.
Kew, Observatory	.....	.....	29.40	746.7	67.1	19.5	.....	SSW	12	5.4	.....	.....	9	.....	.....	.....	.....	D. clouds	J. Fisher.
Kingstown	29.47	748.5	29.49	749.0	60	15.6	.....	NW	.....	.....	5	.....	9	.....	.....	.....	.....	Misty	The Staff.
Leicester, Museum	.....	.....	29.37	746.0	65.0	18.3	.....	SW	.....	.....	1	.....	5	.....	.....	Blank	Blank	Overcast	George Mitchell.
Malta, (Mediterranean)	29.85	758.2	29.92	760.0	86.3	30.2	.....	N	.....	.....	1	.....	3ck	.....	.....	.....	.....	D. clouds	Wm. J Harrison, F.G.S.
Nairn	29.43	747.5	29.52	749.8	52	11.1	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	D. clouds	H. J. Becket, A. H. C.
Nassau, (Bahamas)	.....	.....	30.05	763.3	85.8	29.9	.....	SE	.....	.....	1	.....	5 [d	.....	.....	.....	.....	Raining	W. D. Penny.
Nottingham, Observatory	29.21	741.9	29.40	746.7	67.8	19.9	.....	SSW	.....	.....	1	.....	10ks;k;	.....	SSW	0.322	8.18	D. clouds	C. S. Duncombe.
Oscott, St. Mary's College	28.88	733 5	29.38	746.2	63.8	17.7	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	Raining	E. J. Lowe, F. R. S.
Oxford, Radcliffe Obs'y	.....	.....	29.39	746.5	63	17.2	.....	W	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy	Rev. Stephen Whitty.
Plymouth	29.43	747.5	29.50	749 3	66.5	19.2	.....	NW	.....	.....	3	.....	8	.....	.....	.....	.....	Drizzling	H.E. Bellamy.
Roche's Point	29.59	751.6	29.64	752.8	63	17.2	.....	N	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds	John Merrifield.
Saint Ann's Head	29.35	745.5	29.51	749.5	60	15.6	.....	NW	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded	W. Kennedy.
Sandwick Manse, (Orkneys)	.....	.....	29.56	750.8	53.2	11.8	.....	N	9	4.0	.....	.....	10	.....	.....	.....	.....	D. clouds	John C. Walker.
Scutari, Cemetery, (Turkey	.....	.....	29.89	759.2	86.6	30.3	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Overcast	Rev. C. Clouston, LL. D.
Sheffield	29.12	739.6	29.39	746.5	66.5	19.2	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Silloth Rectory	29.35	745.5	29.38	746.2	70.2	21.2	64	Calm	.....	.....	0	.....	0	.....	.....	0.15	3.8	Threatening	W. F. Cooper.
Stonyhurst, Observatory	29.01	736.8	29.42	747.3	60.6	15.6	.....	WNW	.....	.....	1	.....	10	.....	.....	0.037	0.89	Blue sky	C. Edith Redford.
Stornoway, Lews C., (Hebr.)	29.48	748.8	29.52	749.8	53	11.7	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	W.C. Carlisle for Rev. S. J. Perry
Strathfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	John Sutherland.
Thurso	.....	.....	29.55	750.6	55	12.8	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	Rev. C.H. Griffith, F.M.S
Truro, Royal Institution	.....	.....	29.62	752.3	67	19.4	.....	W	.....	.....	4	.....	7	.....	.....	.....	.....	Gloomy	John Trotter.
Valencia, Observatory	.....	.....	29.71	754.6	58.0	14.4	.....	NNW	18	8.0	.....	.....	7	.....	.....	.....	.....	D. clouds	W. Newcombe.
Sub-Series.																		Showery	The Staff.
Hobart Town, (Tasmania)	.....	.....	29.63	752.6	55	12.8	81	SW	.....	.....	2	.....	10kn	.....	.....	0.30	7.6	Cloudy	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.01	762.2	30.20	767.2	75.4	24.1	66	ESE	16.0	7.2	.....	1	1	.....	ESE	0	0	Squally	C. Meldrum.
Melbourne, Observatory	29.75	755.6	29.84	757.9	46.0	7.8	90	S	4	1.8	.....	.....	10	.....	.....	0.49	12.4	Showery	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 52° 30′, W. 51° 50′	5	.....	Foggy	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 40° 0′, W. 73° 40′	3	.....	Foggy	Capt. Alex Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

Note.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart,
San José	26.24	666.5			66.6	19 2	93	NE			1	9cs				0.1	3.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.47	748.5	29.52	749.7	68.0	20.0	71	SE			4		7						
Faröe	29.45	748.0	29.47	748.5	67.1	19.5	76	S			4		8						
Godthaab, (Greenland)	29.56	750.7	29.60	751.8	45.3	7.4	88	ENE			2		7						
Stykkisholm, (Iceland)	29.62	752.3	29.66	753.4	47.5	8.6	70	E			4		8						
Thorshavn, (Faröe)	29.58	751.2	29.61	752.1	51.3	10.7	65	Calm			0		1						
Vestervig	29.30	744.2	29.47	748.5	61.0	17.8	84	Calm			0		8						Thunder-storm

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.06	738.2	29.61	752.2	68.4	20 2	54	W			3		5	W	W	0.220	5.60	Cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.69	754.2	29.77	756.2	75.6	24.2	67	NNE			1		5		S	0.496	12.6	Cloudy	M. Giraud, Director.
Bar-sur-Seine	29.13	739.8	29.66	753.3	69.6	20.9	63	SSW			1		8kn		WSW	0	0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.26	743.3	29.54	750.2	73.4	23.0	58	SW			4		8		WSW	0.108	2.75	Very cloudy	Frere Eugene Marie, Director.
Besançon	28.85	732.9	29.71	754.7	72.1	22.3	63	SW			2		8		SW	0.028	0.7	Very cloudy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.16	740.6	29.63	754.0	71.6	22	78	S			3		2ck		S	0	0	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.35	745.5	29.60	751.7	71.6	22.0	66	WNW			4		7		WNW	0.413	10.50	Squally	The Staff.
Carcassonne, Normal School	29.36	745.8	29.76	755.8	75.2	24	65	NE			2		10	NE		0.075	1.9	Covered	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	28.98	736.2	29.53	750.0	70.2	21.2	87	S			8		6		NE	0.94	24.		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.32	744.8	29.63	752.6	68.7	20.4	72	SW			2		10	NE	NE	0.043	1.1	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.45	722.5	29.73	755.2	74.5	23.6	54	SW			1				SW	0.236	6.0		Alluard, Director.
Commercy, Normal School	28.87	733.4	29.73	755.1	65.1	18.4	82	W			3		10kn		W			Light rain	Dr. Coulet, Director.
Commune de Grèasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.44	747.8	29.65	753.1	65.5	18.6	67	SW			4		5		W	0.051	1.3	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.28	743.8	29.58	751.3	67.6	19.8	91	SSW			1		5		SW	0.482	12.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.86	733.0	29.74	755.3	71.1	21.7	82	S			2		10		E			Raining	Baudry, Director.
Lorient, Naval Observatory	29.54	750.2	29.63	752.7	69.4	20.8	76	WSW			5		5		W	0.091	2.3	⅜ Covered	T. Carré, Director.
Mâcon, Normal School					70.0	21.1	91	NE			1		10		NE	0	0	Covered	M. Galzin, Director
Mirecourt, Normal School	28.65	727.6	29.61	752.1	71.6	22	61	SW			3		5k		SW	0.04	1.	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.69	754.0	29.88	758.9	66.4	30.2	41	N			2		2		S	0.295	7.5	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.72	729.6	29.75	755.7	71.4	21.9	78	W			3		10	NE	W	1.202	30.6	Raining	M. Cantier.
Puy de Dome (Summit)	24.96	633.9			49.6	9.8	100	SW			3					0.500	12.7		Alluard, Director.
Rochefort, Naval Obs'y	29.72	754.8	29.75	755.6	66 0	18.9	90	SW			6		10		SW	0.08	2.	Covered	M. Giguel, Director.
Rouen, Normal School	29.43	747.4	29.51	749 5	69.4	20.8	75	S			4		5		SW	0.217	5.5	Cloudy	F. Lucard, Director.
Saint Malo (Port)			29.56	750.8	67.6	19.8	72	SW			3		8		WSW	0.205	5.20	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	29.08	738.6	30.08	764.1	73.4	23	59	SW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique.	29.90	759.5	29.93	760.2	82.4	28										0	0		L'Abbé Marchès.
Lyons			30.23	767.9	76.5	24.7	48						0			0	0		L. Jays.
Marseilles, Observatory			29.76	755.9	80.2	26.8	76	S			1		9			0.087	2.20	Very cloudy	The Staff.
Mont-Louis	24.76	629.0	30.08	764.0	65.8	18.8	44	SSE	24.2	10.83			1		SE	0.165	4.2		M. Cave.
Nice			29.80	757.0	79.7	26.5	84	SW			1		2			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.28	743.6	29.55	750.6	71.8	22.1	59	SW			6		5		SW	0.134	3.4		Marié Davy, Director
Perpignan			29.82	757.4	75.7	24.3	69	N	3.7	1.67			10			0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.49	571.3			52.2	11.2		SW			??	6				0.236	6.0	Cloudy	Gen'l de Nansou y
Saint Maur, (near Paris)	29.40	746.8	29.57	751.0	72.5	22.5	54	SW			4	8		SW		0.177	4.5	Thunder-storm	E. Renou.
Toulouse, Observatory	29.17	741.0	29.90	759.4	70.9	21.6	70	NNW			2	8				0	0		The Staff.
Tours	29.02?	760.0?	30.1 27	765.0?	68.7	20.4	49	W			2	5		WNW		0.063	1.6		C. Marquet.
Versailles			29.57	751.0	73.8	23.2	42	SW			6	8				0.017	0.43	Squally	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.51	757.1	29.83	757.7	76.6	24.8	93	E	8.7	3.9		7ck				0.024	0.6	Lightning	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.78	731.0	29.61	752.1	69.4	20.8	72	SW	.....	.....	2	.....	6	W	.....	0.20	5.	Raining.....	Prof. Dr. Hoh.
Berlin	29.45	748.1	29.62	752.3	73.4	23 0	59	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.24	742.6	29.76	756 0	70.3	21.3	75	SSE	.....	.....	2	.....	10	.....	.....	Inap.	Inap.	Sprinkling..	Royal University Obs'y
Carlsruhe	29.26	743.1	29.67	753.5	71.2	21.8	67	SW	.....	.....	2	.....	9	.....	.....	0.331	8.4	.....	Albert Senz.
Cassel	29.00	736.6	29.60	751 8	73.8	23.2	66	SSW	.....	.....	3	.....	5	SW	.....	0.047	1.20	Thunder-storm..	Dr. H. Möhl.
Crefeld	29.36	745.8	29.52	749.9	71.6	22.0	64	SW	.....	.....	4	.....	8n	.....	.....	.....	.....	Thunder-storm...	Director Lose.
Emden	29.41	746.9	29.45	747.9	67.3	19.6	94	S	.....	.....	0	.....	5	SW	.....	0	0	Lightning...	Prof. Prestel.
Frankfort on the Main	29.30	744.1	29.52	749.9	73.4	23	.....	SSW	.....	.....	4	.....	4	.....	.....	Inap.	Inap.	.....	Physical Society.
Friedrichshafen	28.37	720 6	29.75	755.6	69.8	21.0	78	SSE	.....	.....	4	.....	8	SW	.....	0	0	.....	M. Wilhelm.
Hamburg	29.47	748.4	29.53	750.1	70.9	21.6	69	SSW	.....	.....	3	.....	6k	.....	.....	0.189	4.8	Fair.....	Captain F. Hegemann.
Kiel	29.49	749.1	29.51	749.5	69.4	20.8	66	SE	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.63	752.7	29.71	754.7	71.2	21.8	52	SW	.....	.....	3	.....	4	.....	.....	0.004	0.1	.....	Prof. E. Luther.
Köslin	.....	.....	29.61	752.1	70.9	21.6	.....	S	.....	.....	4	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.26	743.1	29.66	753.3	72.1	22.3	65	SSW	.....	.....	3	.....	9	WSW	.....	0.087	2.2	.....	Prof. Bruhns.
Memel, Naval School	29.65	753 1	29.70	754.3	68.0	20.0	73	SW	.....	.....	2	.....	9clc;cs	SW	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.67	753.6	29.69	754.0	74.3	23.5	54	SSW	.....	.....	2	.....	10	.....	.....	0	0	.....	A. Lothes.
Posen	29.45	747.9	29.72	754.9	72.1	22 3	64	SW	.....	.....	3	.....	10	.....	.....	0.004	0.1	.....	Dr. Magener.
Strassburg (in Alsace)	29.18	741.1	29.70	754.4	73 6	23.1	69	S	.....	.....	3	.....	6	SW	.....	0.079	2.00	.....	Astronomical Observatory.
Stuttgart	28.78	731.0	29.68	753.9	70.2	21.2	65	SW	.....	.....	1	.....	5	W	.....	0.016	0.4	.....	Prof. Schoder.
Treves, (Trier)	29.12	739.7	29.64	752.8	72.1	22.3	56	SW	.....	.....	7	.....	3	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.26	717.8	29.70	754.3	65.7	18.7	73	S	10.7	4.8	.....	.....	9kn	.....	W	0.020	0.5	.....	Dr. Von Bebber.
Wustrow, Naval School	29.56	750.8	29.60	751.8	72.1	22.3	90	SE	.....	.....	3	.....	4	.....	.....	0	0	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.55	750.5	29.92	759.9	89.6	32.0	.....	SW	.....	.....	1.0	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deesa	29.15	740.3	29.62	752.3	81.7	27.6	99	W	.....	.....	.....	.....	6	W	W	0.46	11.7	D. clouds.....	
Bombay	29.69	754.0	29.72	755.0	79.7	26.5	96	W	17	7.6	.....	.....	10	.....	WNW	1.47	37.3	Overcast.....	
Poona	27.74	704.6	29.75	755 7	74.2	23.4	89	W	.....	.....	.....	.....	10	.....	W	0.61	15.5	D. clouds.....	
Lahore	28.76	730.5	29.49	749.0	84.0	28.9	77	W	0.8	0.4	.....	.....	8	.....	.....	0.18	4.6	D. clouds.....	
Belgaum	27.27	692.7	29.82	757.5	71.9	22.2	95	W	17	7.6	.....	.....	10	.....	W	0.28	7.1	Showery.....	
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.60	726.5	29.49	749.0	81.8	27.7	85	Calm	1.3	0.6	.....	.....	7	.....	.....	2.29	58.2	.....	
Agra	28.96	735.6	29.51	749.6	86.7	30.4	78	W	.....	.....	.....	.....	2	.....	W	0	0	.....	
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.58	725.8	29.61	752.2	79.6	26.4	92	Calm	4.6	2.1	.....	.....	9	.....	E	1.13	28.7	Gloomy.....	
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allahabad	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patna	29.35	745.4	29.52	749.9	87.2	30.7	74	E	1.8	0 8	.....	.....	8	E	E	0.01	0.3	D. clouds.....	
Hazaribagh	27.55	699.7	29.54	750.4	77.0	25.0	89	SW	6.8	3.0	.....	.....	9	.....	SE	0.56	14.2	Thunder-storm..	
Cuttack	29.53	750.0	29.61	752 1	80.0	26.7	82	W	4.9	2.2	.....	.....	5	.....	.....	0.18	4.6	D. clouds.....	
Calcutta (Alipore)	29.54	750.2	29.56	750.7	80.6	27.0	38	S	10	4.5	.....	.....	10	.....	S	0.39	9.9	Overcast.....	
Goalpara	29.20	741.8	29.59	751.6	81.1	27.3	77	SE	3.8	1.7	.....	.....	10	.....	SE	0.58	14.7	D. clouds.....	
Chittagong	29.63	752.6	29.72	754.9	76.5	24.7	92	ESE	7.4	3.3	.....	.....	10	.....	.....	0	0	Gloomy.....	
Sibsagar	29.28	743.6	29.61	752.0	82.2	27.9	86	SW	3.7	1.6	.....	.....	10	W	W	0.77	19.6	Gloomy.....	
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.23	717.0	29.58	751.4	80.8	27.1	83	SSE	1.9	0.8	.....	.....	10	.....	.....	1.25	31.7	Raining.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.42	747.2	29.81	757.2	81.7	27.6	65	SE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.66	753.3	29.76	756.0	80.8	27.1	51	S	1.3	0.6	.....	.....	9	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.57	751.0	29.75	755.6	84.0	28.9	55	S	0	0	.....	.....	5	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.48	723.5	29.73	755.2	80.2	26.8	61	W	.....	.....	2	.....	9	.....	.....	0.039	1.0	.....	Prof. Trionfini Carlo.
Milan	29.25	743.0	29.74	755.5	79.5	26.4	65	NE	.....	.....	2	.....	10	S	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.87	733.3	29.74	755.3	70.9	21.6	79	NNW	3.8	1.7	.....	.....	9	NE	.....	0.167	4.2	.....	Prof. P. F. Denza.
Mondovi	27.94	709.6	29.76	755.9	73.0	22.8	68	WNW	.....	.....	6	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.59	751.5	29.80	756.9	79.7	26.5	76	SW	.....	.....	4	.....	9	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.63	752.6	29.79	756.7	77.7	25.4	75	SE	.....	.....	4	.....	8	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.45	748.1	29.76	755.8	87.1	30.6	39	SSW	.....	.....	6	.....	9	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.54	750.2	29.78	756.4	91.4	33.0	32	S	.....	.....	4	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.72	754.8	29.80	756.9	81.5	27.5	73	S	16.1	7.2	.....	.....	4	S	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.70	754.4	29.75	755.6	92.5	33.6	30	S	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.30	718.8	29.78	756.4	84.4	29.1	33	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.71	754.7	29.88	759.0	90.5	32.5	27	S	11.9	5.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.75	755.6	29.94	760.5	85.1	29.5	33	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.65	753.0	29.89	759.2	91.9	33.3	28	WSW	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.60	751.9	29.79	756.6	86.9	30.5	53	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.04	737.5	29.87	758.7	91.0	32.8	57	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.67	753.7	29.92	759.9	82.8	28.2	62	ENE	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.84	757.8	29.91	759.7	85.6	29.8	49	S	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.39	746.6	29.95	760.7	85.6	29.8	37	.....	1.8	0.8	.....	.....	1	NE	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.67	753.6	29.87	758.7	76.6	24.8	83	NNW	3.7	1.6	.....	.....	0	.....	.....	0	0	Clear.	
Tokei (Yeddo) Observatory	29.89	759.2	29.96	761.0	72.5	22.5	91	Calm	0	0	.....	.....	10m;ks	.....	.....	0.055	1.40	Light rain...	I. Arai, Director.
Tokei (Yeddo) University	29.85	758.2	29.95	760.6	71.5	21.9	99	NNE	2	0.9	.....	.....	10s	.....	.....	0.01	0.3	Cloudy.....	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	64.0	17.8	98	E	1.8	0.8	.....	0	10n	.....	.....	0.26	6.6	Covered.....	L. Castillo, A. E.
Guadalajara	25.04	636.0	29.98	761.4	59.9	15.5	91	Calm	0	0	.....	0	9ks	.....	N	0.14	3.6	Cloudy.....	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.03	0.8	.....	Prof. V. Fernandez
Leon	24.38	619.3	29.88	758.9	66.2	19.0	70	ENE	0.9	0.4	.....	8ck	0	E	.....	0	0	Cloudy.....	Prof. M. Leal.
Mexico	23.07	586.0	30.02	762.6	59.0	15.0	90	N	4.5	2.0	.....	0	10k	.....	SE	1.18	30.0	Covered	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.1	17.3	86	NNW	1.8	0.8	.....	0	10kn	.....	NE	0.13	3.3	Raining.....	M. V. de Leon, M. E
Puebla	23.32	592.4	29.90	759.4	57.6	14.2	92	NE	0.9	0.4	.....	0	9kn	.....	S	0.77	19.5	Cloudy.....	Prof. B. Gonzalez.
Tlacotalpam	29.80	756.9	29.81	757.2	77.9	25.5	83	S	0.9	0.4	.....	0	10ks	.....	NE	2.99	76.0	Cloudy.....	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.06	763.4	62.6	16.7	59	ESE	0.9	0.4	.....	0	10	.....	ESE	0.08	2.0	Covered.....	G. Barroeta, M. D.
Vera-Cruz	29.82	757.3	29.85	758.0	78.8	26.0	84	Calm	0	0	.....	0	10kn	.....	.....	0.47	12.0	Dark.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	SW	0.9	0.4	.....	4	6	S	E	0	0	Dark.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.5	29.99	761.9	55.9	13.3	91	SE	0.9	0.4	.....	3	2	N	N	0.63	16.1	½ cloudy.....	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.33	719.6	29.95	760.8	78.8	26.0	78	SE	0.9	0.4	.....	5	2	.....	SE	0.39	9.8	Cloudy.....	R. Banda, C. E.
San Juan E. Michapam	29.64	752.8	29.78	756.5	79.7	26.5	.....	Calm	0	0	.....	7c	3n	NE	NW	0.01	0.2	Cloudy.....	Antonio Guerra y Guerra.
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NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.48	748.8	29.48	748.8	70.9	21.6	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.177	4.5	.....	
Groningen	29.48	747.5	29.48	748.9	65.8	18.8	.....	S	.....	.....	2	.....	.....	.....	.....	0.346	8.8	.....	
Helder	29.45	748.1	29.45	748.1	63.0	17.2	.....	SW	.....	.....	1	.....	.....	.....	.....	1.063	27.0	.....	
Hellevoetsluis	29.47	748.4	29.47	748.4	69.6	20.9	79	SSW	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.45	747.9	29.49	749.1	67.8	19.9	80	S	.....	.....	3	.....	8	.....	.....	0.362	9.2	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the ..., as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.43	747.4	29.48	748.8	57.6	14.2	57	NW	6.5	2.9	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.41	747.1	29.45	748.1	56.5	13.6	60	W	7	3	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.26	743.1	29.39	746.6	70.5	21.4	53	SW	4	2	.....	.....	4	.....	.....	0	0	.....	
Tromsö	29.36	745.7	29.40	746.8	52.9	11.6	74	N	4	2	.....	.....	9	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.93	760.2	30.12	765.0	69.1	20.6	80	NE	11.2	5.0	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.09	738.8	30.08	764.0	77.0	25.0	42	WNW	8.1	3.6	.....	.....	7	WNW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.96	761.0	30.05	763.2	76.1	24.5	81	SE	6.3	2.8	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.64	752.9	29.99	761.8	74.7	23.7	47	NNW	11.2	5.0	.....	.....	3	.....	.....	0.008	0.2	.....	The Staff.
Ponta Delgada, (Azores)	30.03	762.8	30.10	764.6	70.5	21.4	82	NE	7.4	3.3	.....	.....	10	.....	.....	0.063	1.6	Light rain...	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m

Naval Series. Vessels.															Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44', W. 25° 41'	.....	.....	30.05	763.2	72.5	22.5	.....	NE	.....	.....	3	.....	10	.....	NE	2	.....	Drizzling.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13', E. 12° 02'	.....	.....	30.03	762.8	62.6	17.0	.....	WSW	.....	.....	1	.....	8	.....	W	1	.....	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53', W. 23° 34'	.....	.....	29.94	760.5	84.9	29.4	.....	SSE	.....	.....	1	.....	8	.....	S	3	S	D. Clouds ...	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 05'	.....	.....	30.00	762.1	73.0	22.8	.....	WNW	.....	.....	2	.....	4	.....	W	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.33	745.0	29.74	755.3	69.6	20.9	77	SSW	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.33	744.1	29.69	751.2	71.4	21.9	53	SW	2	1	.....	.....	9	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.26	743.3	29.50	749.2	65.5	18.6	65	W	11	5	.....	.....	9k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.24	742.8	29.26	743.2	60.4	15.8	83	W	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	29.80	756.9	82.2	27.9	38	SW	9	4	.....	.....	[c;ek	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.21	741.8	29.80	756.9	82.2	27.9	38	SW	9	4	.....	.....	4k;ks;	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.88	758.9	29.95	760.7	85.3	29.6	64	S	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.01	762.2	30.03	762.7	80.2	26.8	79	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.15	740.4	29.67	753.7	69.3	20.7	58	SE	9	4	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.66	753.4	29.85	758.3	84.4	29.1	37	WNW	9	4	.....	.....	3ck	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.17	741.0	29.19	741.5	68.0	20.0	65	ESE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.52	724.3	29.85	758.1	85.5	29.7	44	NNW	22	10	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.90	759.5	29.82	757.4	93.4	34.1	22	Calm	0	0	.....	.....	3cks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.40	746.7	29.65	753.1	76.3	24.6	43	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[ek;k	.....	.....	.....	.....	.....	Tschernischei.
Ekaterinburg	28.85	732.7	29.76	755.8	68.6	20.6	69	Calm	0	0	.....	.....	7n;c	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.40	746.7	29.61	752.2	93.2	34.0	36	NNW	7	3	.....	.....	2ck	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.10	713.6	29.66	753.3	91.0	32.8	15	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.17	740.9	29.66	753.3	80.1	26.7	37	Calm	0	0	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.48	748.9	29.77	756.1	61.0	16.1	72	ENE	4	2	.....	.....	6	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.73	755.1	29.87	758.7	80.6	27.0	90	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 402 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 5° 47', E 4° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.69	754.1	29.79	756.6	83.8	28.8	73	S	0.9	0.39	.....	.....	5c	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.82	757.3	29.87	758.7	76.3	24.6	61	NW	1.6	0.74	.....	3	2	W	.....	0.224	5.7	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.00	685.9	.....	.....	70.3	21.3	58	SW	11.8	5.26	.....	.....	7	.....	.....	0.059	1.5	Cloudy.....	Domingo Martin y Perez
Madrid, Royal Observatory	27.70	703.5	29.79	756.7	84.6	29.2	32	SW	14.2	6.33	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	29.63	752.5	29.77	756.1	99.9	37.7	32	WNW	4.7	2.11	.....	1	.....	ESE	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.01	736.8	29.88	758.9	68.9	20.5	75	W	13.4	6.00	.....	.....	8	.....	.....	0.138	3.5	Almost cov.	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.93	760.3	30.00	762.0	78.2	25.7	78	E	5.8	2.6	.....	5c;cs	1k	.....	.....	0.039	1.0	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.89	759.2	29.99	761.6	74.7	23.7	68	W	16.4	7.3	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.99	761.8	30.08	764.1	83.8	28.8	83	E	3.7	1.66	.....	5cs	2k	W	E	0	0	D. clouds.....	Leonardo de Toleda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.32	744.8	29.36	745.8	59.0	15.0	.....	NE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.34	745.2	29.47	748.5	63.0	17.2	72	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.35	745.6	29.41	746.9	65.7	18.7	67	NW	.....	.....	2	.....	5	.....	.....	0.524	13.3	Raining	
Stockholm	29.32	744.8	29.49	749.0	66.6	19.2	61	WNW	.....	.....	2	.....	8	.....	.....	0.532	13.5	.....	
Wisby	29.46	748.2	29.52	749.7	66.6	19.2	66	W	.....	.....	2	.....	8	.....	.....	0.043	1.1	.....	
Sub-Series.																			
Upsala	29.38	746.3	29.46	748.2	66.9	19.4	62	WSW	6.0	2.7	6	.....	6	.....	WNW	0.004	0.09	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.41	721.7	29.80	756.9	68.0	20.0	68	SSW	.....	.....	4	.....	10	.....	.....	1.858	47.2	Covered	The Observatory.
Zurich	28.19	716.1	29.78	756.5	67.6	19.8	75	W	.....	.....	2	.....	10	.....	.....	0.134	3.4	Covered	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —6.1 mm.; Thermometer, —1.7 cent.; Relative Humidity, +13 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.3	79.3	26.3	58	NNE	17	7.5	.....	.....	0	.....	.....	0	0	.....	
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	The Observatory.
Valona	.....	.....	30.06	763.4	89.2	31.8	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.68	753.9	29.79	756.6	93.6	34.2	58	W	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.03?	762.7?	30.03?	762.7?	70.4	21.3	88	Calm		0	.....	.....	8a	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.82	757.4	30.11	764.8	72	22.2	.....	S	1	0.4	.....	.....	8s	.....	SW	0	0	Cloudy	W. R. Bigg.
*Chatham, N B	30.08	764.0	30.14	765.5	69	20.6	87	SW	8	3.6	.....	2ck	0	SW	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.12	765.0	30.16	766.1	69	20.6	91	S	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Sprinkling	H. J. Cundall, C. E.
Cornwall, Ontario	29.90	759.4	30.09	764.3	70.9	21.6	83	SW	.....	.....	1	6cs	0	W	.....	n ap.	Inap.	Fair	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	66	18.9	89	E	.....	.....	3	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.74	755.4	29.79	756.7	56.2	13.4	90	SW	.....	.....	.....	5ck	0	.....	.....	0	0	Cloudy	W. H. Bevis.
*Father Point, Quebec	30.08	764.0	30.10	764.5	61	16.1	85	Calm	0	0	.....	2c	Haze	Calm	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	30.15	765.8	30.21	767.3	69.5	20.8	82	NW	2	0.9	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.28	743.7	30.11	764.8	46	4.4	97	Calm	0	0	.....	2ck	2ks	W	W	0	0	Fair	James Stewart.
Granton, Ontario	29.01	736.8	30.07	763.8	65	18.3	100	S	.....	.....	1	.....	10n	.....	.....	0.06	1.5	Overcast	James Grant.
*Halifax, N. S	30.04	763.0	30.17	766.3	66	18.9	96	Calm	0	0	.....	.....	10n	.....	.....	0.029	0.74	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.76	755.9	30.12	765.0	70.5	21.4	60	W	.....	.....	1	7ck	0	W	.....	Inap.	Inap.	Cloudy	Geo. Dickson, M. A.
Heart's Content, N. F	30.11	764.8	30.13	765.3	61	16.1	83	SW	.....	.....	1	3k	4s	.....	.....	0	0	Cloudy	E. Weedon.
*Kingston, Ontario	29.81	757.2	30.13	765.3	70	21.1	85	S	15	6.7	.....	10cs	0	Calm	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.14	765.5	30.18	766.6	65.0	18 8	.....	S	6	2.7	.....	0	9s	.....	.....	0	0	Overcast	C. H. Rigby,
*Montreal, Quebec	29.94	760 5	30.13	765.3	70	21.1	83	W	6	2.7	.....	2c	8s	.....	Calm	Inap	Inap	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.39	746.5	30.06	763.5	69	20.6	95	S	8	3.6	.....	2ck	2ks	W	W	0.09	2.3	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.09	764.3	70.5	21.4	88	S	.....	.....	1	2k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.08	764.0	69	20.6	95	Calm	0	0	.....	10k	0	SW	.....	Inap.	Inap.	Fair	H. Morgan.
Port Hastings, N. S	30.13	765.3	30.17	766.3	64.8	18.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.44	747.8	30.07	763.8	67	19.4	95	N	2	0.9	.....	.....	8ks	.....	SW	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.84	757.9	30.15	765.8	69	20.6	85	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.63	752.6	30.08	764.0	64	17.8	94	E	4	1.8	.....	.....	8s	.....	SE	0.01	0.3	Cloudy	W. H. McIntyre.
St. Andrews, N. B	30.14	765.5	30.19	766.8	65	18.3	96	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	30.08	764.0	30.24	768.1	61	16.1	97	SE	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.35	745.5	30.04	763.0	71	21.7	81	S	6	2.7	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	K. Stewart.
Stayner, Ontario	29.27	743.4	30.02	762.5	70	21.1	80	SE	6	2.7	.....	5ck	0	SW	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.06	763.5	64.9	18.3	98	S	3	1.3	.....	.....	10s	.....	.....	0.038	0.97	Cloudy	C. J. MacGregor, M. A.
*Sydney, C. B	30.17	766.3	30.19	766.8	65	18.3	92	SW	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.73	755.1	30.10	764.5	70	21.1	76	Calm	0	0	.....	2c	5s	SW	W	Inap.	Inap.	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	89	SW	.....	.....	.....	1c	2s	.....	.....	0	0	Fair	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.96	761.0	30.18	766.6	74	23.3	81	S	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Alpena, Michigan	29.86	745 7	29.99	761 7	62	16.7	88	W	3	1.3	.....	0	0	.....	.....	0.04	1.0	Clear	
Atlantic City, New Jersey	30.16	766.1	30.18	766.6	73	22.8	95	S	5	2.2	.....	5k	5s	S	Calm	0.10	2.5	Cloudy	
Augusta, Georgia	30.00	762.0	30.18	766.6	78	25.6	86	S	1	0.4	.....	2c	5s;ks	SW	NE;W	0.36	9.1	Fair	
Baltimore, Maryland	30.11	764.8	30.16	766.1	75	23.9	95	SE	2	0.9	.....	.....	10s	.....	Calm	0.05	1.3	Threatening	
Barnegat, New Jersey	30.17	766.3	30.19	766 8	74	23.3	95	S	3	1.3	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Bismarck, Dakota	28.22	716.8	30.08	764.0	51	10.6	72	E	7	3.1	.....	5cs	0	SE	.....	0	0	Clear	
Boerne, Texas	28.41	722.4	.....	.....	79	26.1	74	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.05	687 1	30.01	762.2	65	18.3	89	N	4	1.8	.....	0	2s	.....	Calm	0.10	2.5	Fair	
Boston, Massachusetts	30.09	764.3	30.24	768.1	72	22.2	85	W	5	2.2	.....	8k	Sm'e	W	Calm	Inap.	Inap.	Fair	
Brackettville, Texas	28.88	733.5	29.86	758.4	78	25.6	78	E	1	0.4	.....	2cs	0	E	.....	0	0	Clear	
Breckenridge, Minnesota	29.09	738.9	30.10	764.5	42	5.6	100	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clearing	
Brownsville, Texas	29.86	758.4	29.92	760 0	78	25.6	86	N	3	1.3	.....	2c	0	Calm	.....	6.82	20.8	Fair	
Buffalo, New York	29.41	747.0	30.08	764.0	72	22.2	71	S	2	0.9	.....	5ck	2s	SW	SW	0.03	0.8	Fair	
Burkes, Arizona	.....	.....	.....	.....	86	30.0	51	Calm	.....	.....	0	0	0	.....	.....	Inap.	Inap.	Clear	
Burlington, Vermont	29.03	760.2	30.18	766.6	73	22.8	81	SW	8	3.6	.....	1c	0	SW	.....	0	0	Clear	
Cairo, Illinois	29.70	754.4	30.07	763.8	79	26.1	78	S	1	0.4	.....	0	Haze	.....	.....	0.06	1.5	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	63	17.2	72	Calm	.....	.....	0	2ck	5s	SW	Calm	0	0	Fair	
Camp Grant, Arizona	25.21	640.3	30.01	762.2	72	22.2	58	Calm	.....	.....	0	.....	10s	.....	Calm	0	0	Cloudy	
Camp Verde, Arizona	26.73	678.9	30.22	767.6	74	23.3	63	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.32	693.9	29.89	759.2	59	15.0	81	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.20	767.1	30.24	767.3	81	27.2	83	SE	7	3.1	.....	2k	0	S	.....	0.02	0.5	Fair	
Cape Henry, Virginia	30.22	767.6	30.24	768.1	77	25.0	95	SE	7	3.1	.....	.....	10s	.....	SW	0.41	10.4	Cloudy	
Cape Lookout, N. Carolina	30.18	766.6	30.20	767.1	82	27.8	87	S	8	3.6	.....	0	0	.....	.....	0.21	5.3	Clear	
Cape May, New Jersey	30.17	766.3	30.20	767.1	72	22.2	90	S	11	4.9	.....	5k	0	S	.....	0.64	16.3	Fair	
Castroville, Texas	29.21	741 9	29.89	759.2	76	24.4	86	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.13	765.3	30.19	766.8	80	26.7	91	E	4	1.8	.....	0	1ks	.....	E	0.52	13.2	Clear	
Cheyenne, Wyoming	24.09	611.9	30.03	762.7	57	13.9	94	Calm	0	0	.....	0	8s	.....	S	0	0	Cloudy	
Chicago, Illinois	29.35	745.5	30.01	762.2	67	19.4	74	NW	5	2.2	.....	0	Sm'e	.....	.....	0.05	1.3	Clear	
Cincinnati Ohio	29.40	746.7	30.02	762.5	74	23.3	76	SE	2	0.9	.....	10k	Sm'e	W	Calm	0	0	Cloudy	
Cleveland, Ohio	29.36	745.7	30.05	763.3	69	20.6	75	E	9	4.0	.....	5ck	0	Calm	.....	0.08	2.0	Fair	
Coleman City, Texas	28.26	717.8	29.84	757.9	81	27.2	66	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.23	742.4	30.05	762.7	72	22.2	75	SE	1	0.4	.....	8k	Fog	S	Calm	0	0	Cloudy	
Conchо, Texas	28.04	712.2	29.66	753.4	68	20.0	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.57	751.1	30.02	762.5	73	22.8	90	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.46	748.3	30.10	764.5	58	14.4	82	Calm	0	0	.....	0	Sm'e	.....	N	0.46	11.7	Clear	
Denison, Texas	29.26	743.2	30.02	762.5	76	24.4	87	Calm	0	0	.....	2k	Haze	Calm	Calm	0	0	Fair	
Denver, Colorado	24.82	630.4	30.04	763.0	66	18.8	74	Calm	0	0	.....	.....	8s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.23	742.4	30.09	764.3	66	18.9	64	Calm	.....	.....	0	0	Haze	.....	Calm	0.08	2.0	Dense haze	
Detroit, Michigan	29.40	746.7	30.04	763.0	67	19.4	89	Calm	0	0	.....	2k	5s	SW	SW	0.42	10.7	Fair	
Dodge City, Kansas	27.46	697.5	29.65	753.1	70	21.1	95	SE	16	7.2	.....	2c	5ks	W	S	0	0	Fair	
Dubuque, Iowa	29.40	746.7	30.08	764.0	59	15.0	76	NW	1	0.4	.....	8k	0	NW	.....	0.03	0.8	Fair	
Duluth, Minnesota	29.35	745.5	30.02	762.5	59	15.0	82	Calm	0	0	.....	.....	10ks	.....	W	0.02	0.5	Cloudy	
Eagle Pass, Texas	29.22	742.2	29.94	760.5	75	23.9	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.14	765.5	30.21	767.3	65	18.3	84	S	4	1.8	.....	.....	10s;fg	.....	Calm	0.02	0.5	Cloudy	
El Paso, Texas	.....	.....	.....	.....	78	25.6	49	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.38	746.2	30.06	763.5	72	22.2	80	S	7	3.1	.....	5ck	2s	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.34	745.2	29.98	761.5	58	14.4	82	W	7	3.1	.....	5c	0	W	.....	0.27	6.9	Fair	
Florence, Arizona	.....	.....	.....	.....	80	26.7	55	Calm	.....	.....	0	5k	0	W	.....	0	0	Fair	
Fort Craig, New Mexico	25.59	650 0	29.65	753.1	60	15.6	82	Calm	0	0	.....	5c	0	SW	.....	0	0	Fair	
Fort Davis, Texas	25.29	642.4	30.25	768.3	72	22.2	49	NW	4	1.8	.....	2c	0	N	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.53	750.0	30.05	763.3	72	22.2	90	NE	2	0.9	.....	.....	10s	.....	N	0.03	0.8	Threatening	
Fort Griffin, Texas	28.76	730.5	29.99	761.7	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.82	706.6	29.65	753.1	75	23.9	68	Calm	0	6	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.84	732.5	29.90	759.4	75	23.9	81	SE	4	1.8	.....	0	2s	.....	Calm	0	0	Fair	
Fredericksburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Galveston, Texas	29.92	760.0	29.96	761.0	82	27.8	91	N	8	3.6	.....	2k	0	NE	.....	0.02	0.5	Fair	
Graham, Texas	28.95	735.3	29.96	761.0	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.40	746.7	30.04	762.7	70	21.1	66	Calm	0	0	.....	0	0	.....	.....	0.28	7.1	Clear	
Indianapolis, Indiana	29.27	743.4	30.01	762.2	74	23.3	76	NW	1	0.4	.....	2ck	5s	W	Calm	0.21	5.3	Clearing	
Indianola, Texas	29.94	760.5	29.96	761.0	82	27 8	87	NE	15	6.7	.....	5k	0	E	.....	0	0	Fair	
Jacksboro, Texas	28.93	734.8	30.03	762.7	74	23.3	76	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.01	764.3	30.11	764.8	84	28.9	75	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.44	747.8	30.03	762.7	67	19.4	60	N	5	2.2	.....	2k	2s	N	N	Inap.	Inap.	Fair	
Key West, Florida	29.98	761.5	30.01	762.2	84	28.9	71	SE	9	4.0	.....	2c	Haze	Calm	Calm	0	0	Fair	
Kittyhawk, North Carolina	30.19	766.8	30.21	767.3	78	25.6	91	S	8	3.6	.....	5k	0	W	.....	1.14	29.0	Fair	
Knoxville, Tennessee	29.16	740.7	30.13	765.3	74	23.3	86	Calm	0	0	.....	3ck	0	W	.....	0	0	Fair	
La Crosse, Wisconsin	29.33	745.0	30.05	763.3	61	16.1	66	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.06	661.9	30.21	767.3	68	20.0	65	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Laredo, Texas	29.53	750.0	29.86	758.4	76	24.4	86	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.80	629.9	30.07	763.8	61	16.1	82	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.24	742.7	30.06	763.5	65	18.3	68	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.46	748.3	29.78	756.4	64	17.8	89	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.50	749.3	30.03	762.7	79	26.1	66	W	4	1.8	.....	2ck	Sm'e	SW	Calm	0.30	7.6	Fair	
Lynchburg, Virginia	29.48	748.8	30.13	765.3	78	25.6	78	S	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.25	742.9	29.94	760.5	60	15.6	77	W	4	1.8	.....	5c	0	W	.....	0.03	0.8	Fair	
Mason, Texas	28.40	721.3	30.10	764.5	72	22.2	85	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Memphis, Tennessee	29.75	755.6	30.05	763.3	78	25.6	78	E	1	0.4	.....	0	Sm'e	.....	Calm	0	0	Clear	
Milwaukee, Wisconsin	29.34	745.2	30.05	763.3	60	15.6	77	W	6	2.7	.....	0	0	.....	.....	0.01	0.3	Clear	
Mobile, Alabama	30.01	762.2	30.05	763.3	78	25.6	86	NE	8	3.6	.....	.....	10s	.....	E	0.40	10.2	Cloudy	
Montgomery, Alabama	29.87	758.7	30.10	764.5	77	25.0	82	Calm	0	0	.....	.....	10s	.....	Calm	1.35	34.3	Cloudy	
Morgantown, West Virginia	29.07	738.4	30.09	764.3	71	21.7	85	Calm	0	0	.....	8c	Fog	SW	Calm	0	0	Foggy	
Mt. Washington, N. H.	24.12	612.6	30.48	774.2	51	10.6	86	NW	18	8 0	.....	0	2ks	.....	NW	0	0	Clear	
Nashville, Tennessee	29.55	750.6	30.07	763.8	73	22.8	85	E	2	0.9	.....	.....	Haze	.....	Calm	0	0	Hazy	
New Haven, Connecticut	30.10	764.5	30.21	767.3	74	23.3	86	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy	
New London, Connecticut	30.18	766.6	30.23	767 8	72	22.2	95	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
New Orleans, Louisiana	29.93	760.2	29.98	761.5	81	27.2	83	N	9	4.0	.....	2c	2ks	N	E	0	0	Fair	
Newport, Rhode Island	30.19	766.8	30.23	768 1	72	22.2	95	SE	1	0.4	.....	.....	Fog	.....	.....	Inap.	Inap.	Foggy	
New York, New York	30.03	762.7	30.21	767.3	73	22.8	90	NE	7	3.1	.....	.....	10s;fg	.....	Calm	0	0	Cloudy	
Norfolk, Virginia	30.14	765.5	30.20	767.1	81	27.2	87	S	1	0.4	.....	.....	10s	.....	S	Inap.	Inap	Cloudy	
North Platte, Nebraska	27.48	690.4	29 70	754.4	60	15.6	77	SE	24	10.7	.....	.....	10s	.....	SE	0	0	Cloudy	
Olympia, Washington Ter.	29.85	758.2	29.88	758.9	57	13.9	81	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	29.00	736 6	30.06	763.5	62	16.7	83	Calm	0	0	.....	2k	2s	NW	Calm	0	0	Fair	
Oswego, New York	29.83	757.7	30 14	765 5	70	21.1	85	S	8	3.6	.....	2c	5s	SW	SW	0.21	5.3	Fair	
Pembina, Dakota	29.39	744.2	30.14	765.5	42	5.6	100	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Philadelphia, Pennsylvania	30.14	765.5	30.19	766.8	72	22.2	100	E	6	2.7	.....	.....	10n;fg	.....	Calm	0.03	0.8	Light rain	
Phœnix, Arizona	28.64	727.4	.....	.....	91	32.8	42	N	.....	.....	1	8c	0	Calm	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.01	457.4	30.22	767.6	37	2.8	38	W	10	4.5	.....	.....	10s	.....	W	0.08	2.0	Cloudy	
Pioche, Nevada	24.12	612.6	29.89	759.2	58	14.4	82	SE	2	0.9	.....	.....	10s	.....	Calm	0.51	13.0	Cloudy	
Pittsburg, Pennsylvania	29.29	744.0	30.06	763.5	73	22.8	81	E	2	0.9	.....	2k	Sm'e	S	Calm	0	0	Fair	
Port Huron, Michigan	29.40	746.7	30.04	763.0	67	19.4	84	W	4	1.8	.....	10k	0	W	.....	0.28	7.1	Cloudy	
Portland, Maine	30.16	766.1	30.21	767.3	68	20.0	95	SW	9	4.0	.....	.....	Fog	.....	SW	0	0	Foggy	
Portland, Oregon	29.91	759.7	30.01	762.2	58	14.4	88	Calm	0	0	.....	0	5ks	.....	NW	0	0	Fair	
Prescott, Arizona	24.84	630.9	30.20	767.1	60	15.6	44	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.28	743.7	30.08	764.0	74	23.3	95	Calm	0	0	.....	0	0	.....	.....	0	0	Smoky	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	82	27.8	71	E	7	3.1	.....	0	0	.....	.....	0.16	4.1	Clear	
Red Bluff, California	29.42	747.3	29.76	755.9	69	20.6	61	S	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.77	756.1	29.98	761.5	84	28.9	68	N	4	1.8	.....	5k	0	NE	.....	0.09	2.3	Fair	
Rochester, New York	29.51	749.5	30.10	764.5	71	21.7	75	SW	5	2.2	.....	5c	0	SW	.....	0.39	9.9	Fair	
Roseburg, Oregon	29.45	748.0	30.01	762.2	57	13.9	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.70	754.4	29.78	756.4	59	15.0	76	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.50	749.3	30.05	763.3	70	21.1	85	N	2	0.9	.....	0	Sm'e	.....	.....	0.14	3.6	Clear	
St. Marks, Florida	30.05	763.3	30.06	763.5	76	24.4	95	NE	8	3.6	.....	8ck	2s	S	S	0.59	15.0	Cloudy	
St. Paul, Minnesota	29.21	741.9	30.02	762.5	57	13.9	75	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.63	651.0	29.96	761.0	68	20.0	70	N	4	1.8	.....	2c	2s	W	Calm	0.03	0.8	Fair	
San Antonio, Texas	29.31	744.5	29.87	758.7	75	23.9	90	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.76	755.9	29.84	757.9	66	18.9	89	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Sandusky, Ohio	29.43	747.5	30.08	764.0	69	20.6	80	S	3	1.3	.....	8k	2s	W	Calm	0.11	2.8	Cloudy	
Sandy Hook, New Jersey	30.15	765.8	30.18	766.6	71	21.7	100	E	5	2.2	.....	.....	Fog	.....	E	0.03	0.8	Foggy	
San Francisco, California	29.80	756.9	29.87	758.7	54	12.2	93	W	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.41	594.6	29.95	760.7	61	16.1	45	SE	1	0.4	.....	1c	0	Calm	...	Inap.	Inap.	Clear	
Savannah, Georgia	30.06	763.5	30.15	765.8	77	25.0	100	NE	3	1.3	.....	.....	Fog	.....	Calm	0.15	3.8	Foggy	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	77	25.0	86	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.37	619.0	...	.....	63	17.2	57	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	30.17	766.3	30.20	767.1	81	27.2	87	SE	8	3.6	.....	1cs	1s	SW	SE	0.11	2.8	Clear	
Springfield, Massachusetts	30.03	762.7	30.16	766.1	74	23.3	81	S	1	0.4	.....	.....	10s	.....	S	0	0	Cloudy	
Stockton, Texas	26.98	685.3	29.98	761.5	65	18.3	44	S	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Thatcher's Island, Mass	30.20	767.1	30.25	768.3	68	20.0	90	SW	5	2.2	.....	2c	Fog	W	.....	0	0	Foggy	
Toledo, Ohio,	29.37	746.0	30.02	762.5	70	21.1	85	S	1	0.4	.....	8cs	0	SW	.....	0.22	5.6	Cloudy	
Tucson, Arizona	27.24	691.9	29.70	756.7	81	27.2	67	Calm	0	0	.....	10k	0	Calm	.....	0	0	Cloudy	
Tybee Island, Georgia	30.11	764.8	30.14	765.5	86	30.0	76	SE	5	2.2	.....	0	5ks	.....	SW	0	0	Fair	
Umatilla, Oregon	29.44	747.8	.....	.....	68	20.0	51	W	24	10.7	.....	.....	10s	.....	W	0	0	Cloudy	
Uvalde, Texas	29.10	739.1	29.88	758.9	75	23.9	68	Calm	0	0	.....	2k	2s	E	E	0.03	0.8	Cloudy	
Vicksburg, Mississippi	29.80	756.9	30.05	763.3	77	25.0	91	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Virginia City, Montana	24.21	614.9	29.69	754.1	63	17.2	62	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Visalia, California	29.44	747.8	29.80	756.9	68	20.0	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.05	763.3	30.16	766.1	74	23.3	93	NE	3	1.3	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	70	21.1	55	E	.....	.....	1	0	0	.....	.....	0.03	0.8	Clear	
Wilmington, N. Carolina	30.11	764.8	30.19	766.8	81	27.2	86	SE	7	3.1	.....	8k	0	SE	.....	0.76	19.3	Fair	
Winnemucca, Nevada	25.59	650.0	29.95	760.7	56	13.3	94	E	9	4.0	.....	.....	10n	.....	SW	0.42	10.7	Light rain	
Wood's Holl, Mass.	30.19	766.8	30.25	768.3	71	21.7	100	S	1	0.4	.....	.....	10s	.....	Calm	0.38	9.7	Cloudy	
Yankton, Dakota	28.83	732.3	30.13	765.3	53	11.7	86	NE	2	0.9	.....	5cs	5s	NW	NW	0	0	Cloudy	
Yuma, Arizona	29.56	750.8	29.72	754.9	88	31.1	69	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.75	755.6	29.80	756.9	55.0	12.8	87	SE	21	9.4	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.96	761.0	29.98	761.5	79	26.1	82	E	3.0	1.6	.....	8c	0	Calm	.....	0.06	1.5	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	4	1.8	.....	2c	2ks	NE	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.12	765.0	30.13	765.3	76	24.4	95	Calm	0	0	.....	.....	10n	.....	SE	1.84	46.7	.....	James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	82.5	28.1	.....	E	12.5	5.6	.....	.....	.....	.....	.....	0	0	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.02	762.5	30.02	762.5	83	28.3	79	NE	.....	.....	3	4c	5k	E	.....	0	0	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.25	641.3	.....	.....	65.5	18.6	66	.....	.....	.....	.....	2ck;cs	0	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,286 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 m.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 m.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.20	767.1	81	27.2	81	27.2	87	NE	18	8.0	.....	.....	.....	.....	NE	4.08	103.6	.....	.....	.....	
Navy Yard, Portsmouth, N.H	30.19‡	766.8‡	.....	.....	73	22.8	76	NE	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.93*	760.2*	74.2	23.4	73	22.8	90	E	.....	.....	1	.....	10n	.....	S	0.08	2.0	.....	.....	Raining.....	
Adams. Apia, Samoan Islands ...	30.03	762.7	84	28.9	82	27.8	88	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Pleasant... ...	
Alliance, N. 36° 23′, W. 2° 08′.....	29.86‡	758.4‡	.....	.....	74	23.3	90	WNW	.....	.....	5–6	.....	0	.....	.....	.....	.....	Mod'ate	W	Hazy...	
Ashuelot. Kobe, Japan.....	29 97	761.2	82	27.8	80	26.7	78	W	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Alaska. S. 30° 10′, W. 44° 45′.....	30.34	770.6	65	18.3	57	13.9	81	SSW	.....	.....	3	.....	8	.....	SW	0.25	6.3	Long	SW	D. clouds.....	
Canonicus, New Orleans, La.....	30.04	763.0	57	13.9	80	26.7	91	NE	.....	.....	2	.....	8	.....	SW	.....	.....	... ...	.....	Cloudy	
Colorado, New York, N. Y.....	30.16‡	766.1‡	.....	.....	73	22.8	95	ENE	5	2.2	.....	.....	10	.....	ENE	.....	.....	.....	.....	Drizzling.....	
Constitution, Havre, France.....	29.45‡	748.0‡	.....	.....	62	16.7	88	WSW	.....	.....	3	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.	
Despatch, N. 39° 04′, E. 24° 20′.....	29.97‡	761.2‡	.....	.....	78	25.6	86	N	.....	.....	3	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.....	30.31	769.9	80	26.7	78	25.6	100	SSW	6	2.7	.....	.....	10	.....	SW	1.5	38.	.....	.....	Cloudy	
Gettysburg Villafranca, France.....	29.74‡	755.4‡	.....	.....	82	27.8	96	SSW	.....	.....	1	.....	5	.....	Calm	0	0	Light	S	Fair.....	
Hartford, Rio de Janeiro, Brazil ...	30.28	769.1	.....	.....	65	18.3	73	NW	4.8	2.1	.....	.....	2	.....	.....	0.02	0.5	.....	.....	Clear.	
Marion, N. 42° 17′, E. 5° 23′.....	29.80	756.9	79	26.1	77	25.0	91	SW	.....	.....	2	.....	0	.....	.....	0	0	Smooth.	SW	Clear..... ...	
Michigan, Green Bay, Wisconsin...	29.34	745.2	68	20.0	58	14.4	82	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy, Yokohama, Japan	29.75‡	755.6‡	.....	.....	73	22.8	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.39	771.9	87	30.6	85	29.4	84	E	2	0.9	.....	.....	8	.....	SE	0.9	23.	.....	.....	Cloudy	
Onward, Callao, Peru.....	30.03†	763.5†	.....	.....	62	16.7	77	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	76	24.4	95	SE	.....	.....	1	.....	8	.....	SE	0	0	.....	.....	Cloudy.....	
Palos, Tientsin, China.....	29.99	761.7	83	28.3	80	26.7	82	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth, New York, N. Y..... ...	30.30	769.6	75	23.9	74	23.3	90	E	.....	.....	0–1	.....	10	.....	E	.....	.....	.....	.....	Misty.....	
Ranger, Hong-Kong, China.....	29.98	761.5	84	28.9	83	28.3	92	SSE	....	.....	2	.....	8	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo, Brownsville, Texas.....	29.89	759.2	78	25.6	78	25.6	95	Calm	.....	.....	.....	.....	2	.....	Calm	.....	.....	.....	.....	Fair...	
Santee, Annapolis, Md...	30.15‡	765.8‡	... .	.....	78	25.6	86	SW	.....	.....	0–1	.....	10	.....	W	0.81	20.6	.....	.....	Cloudy.....	
St. Louis, League Island, Pa.....	30.10	764.5	76	24.4	75	23.9	95	E	4	1.8	.....	.....	10	.....	.....	0.06	1.5	.....	.....	Rainy	
Supply, Havre, France.....	29.54	750.3	66	18.9	66	18.9	79	NW	.....	.....	3	.....	5	.....	NW	.....	.....	.....	.....	Fair	
Swatara, Boston, Mass.....	30.22‡	767.6‡	.....	.....	71	21.7	90	W	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Fair	
Trenton, Cherbourg, France.....	29.45‡	748 0‡	.....	.....	65	18.3	84	WNW	.....	.....	4	.....	4	.....	N;W	0.5	13.	.....	.....	Fair..... ...	
Tuscarora. Acapulco, Mexico.....	29.71	754.6	80	26.7	80	26.7	78	WNW	.....	.....	2	.....	10	.....	wsw	0.015	0.38	.....	.....	Cloudy.....	
Vandalia. Villafranca, France.....	29.73‡	755.1‡	.....	.....	78	25.6	82	S	.....	.....	1	.....	5	.....	S	.....	.....	.....	.....	Fair..... ...	
Wabash, Boston, Mass.....	30.25‡	768.3‡	.....	.....	76	24.4	82	W	2	0.9	.....	.....	10	.....	Calm	0	0	... ...	.....	Cloudy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 07', W. 160° 19'		30.42*	772.7*	70	21.1	??	S			1		6		NW	0	Light smooth	NW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		30.02†	762.5†				NW			2		6		SE				Clear?	Capt. Seabury.
S. S. City of Peking, N. 23° 14', E. 117° 27'		29.90†	759.4†	83	28.3	88	SSW	14	6.3			9		SW	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 15° 38' W. 98° 16'		29.88†	758.9†	84	28.9	83	W			3		10		SSW	Blank	on-fused.	SSW	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.04†	763.0†	54	12.2	??	NW			1		2		NW	0			Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 40° 38', W. 67° 22'		30.18*	766.6*	72	22.2	66	SW			2		Fog		S	0	None		Foggy	Capt. B. Gleadell.
S. S. Germanic, N. 41° 30', W. 65° 48'		30.35†	770.9†	66	18.9	79	W			4		Fog			0	None		Foggy	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 39° 01', E. 155° 16'		29.60*	751.8*	69	20.6	95	W			2		ks		W		Smooth	W	Lightning	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Ridley.
S. S. Oceanic N. 36° 06', E. 143° 11'		29.87	758.7	76	24.4	82	S			3		3		NE		Smooth		D clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OF MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		29.41*	747.0*	61	16.1	88	Calm			0		6		SSE	Light			Cloudy	Captain Sargent.
S. S. Ohio. Philadelphia, Pa		30.16	766.1	75	23.9	95	NE			2		10		Calm	Mod'ate			Dull	Captain Morrison.
S. S. Pennsylvania, N. 49° 11′, W. 20° 06′		30.05†	763.3†	66	18.9	89	N			2		4		S	Blank	Mod'ate	N	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 47° 15′ W. 30° 05′		30.27*	768.8*				NNW	10	4.5			7		NE		Mod'ate	NE	D. clouds	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, N. 40° 23′, W. 72° 37′		30.11	764.8	73	22.8	95	Calm	0	0			Fog			1.61 in or 40.9 mm.	Swell	S	Foggy	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		29.91*	759.7*	45.8	7.7		SW			1	2ck	0	E?		0.03 in or 0.8 mm			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d}.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 17, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.94	760 4	84.2	29.0	58	NNW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.86	758.4	84.9	29.4	71	NE	.....	.....	6	.....	5	.....	.....	0	0	Cloudy	Tourtiliere.
La Calle	.....	.....	29.96	761.0	81.5	27.5	81	ENE	.....	.....	5	.....	1	.....	.....	0	0	Very fair	Foufrede.
Tunis	.....	.....	29.98	761.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.7	89.6	32.0	.....	SE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.05	763.2	102.2	39.0	42	S	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Herbin.
Tebessa	.....	.....	29.98	761.5	95.9	35.5	.....	NNW	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.10	764.6	94.6	34.8	59	S	.....	.....	6	.....	4	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.07	763 8	99.7	37.6	21	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.99	761.7	103.3	39.6	24	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.34	745.2	29.85	758.3	84.2	29.0	51	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.10	739.1	29.84	757.9	70.9	21.6	61	WNW	.....	.....	3	.....	6	.....	.....	0.106	2.7	.....	Dr. Wierzbiski
Eperies	28.96	735 6	29.80	756.8	77.4	25 2	70	Calm	.....	.....	0	.....	7cs;s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.79	731.2	30.01	762.3	65 1	18.4	86	SW	.....	.....	2	.....	10	.....	.....	0.024	0.60	.....	Andreas Rospini.
Hermannstadt	28.46	722.8	29.78	756.4	86.7	30.4	47	NW	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.63	727.2	29.93	760.3	66.9	19.4	77	W	.....	.....	3	.....	10cs;k	.....	.....	0.079	2.0	.....	Prof. C. Wagner
Lemberg	28.82	731.9	29.76	755.8	72.3	22 4	72	SW	.....	.....	2	.....	7	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.79	756.7	29.90	759.4	85.8	29.9	62	SSW	.....	.....	1	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.40	746.7	29.83	757.7	84.6	29.2	59	N	.....	.....	4	.....	0	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.82	757.3	29.92	759.9	84.2	29.0	67	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	P. Busin.
Vienna	29.26	743.3	29.95	760.8	70.9	21.6	59	W	.....	.....	2	.....	7	.....	.....	0.134	3.4	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.54	725.0	30.03	762.7	61.9	16.6	57	W	.....	.....	5	.....	6	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.75	755.6	29.95	760.6	65.5	18.6	46	W	.....	.....	5	2	5	W	W	0	0	.....	Royal Observatory
Furnes	29.98	761.4	30.00	762.0	66.0	18.9	52	WSW	.....	.....	5	.....	4	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.42?	747.3?	29.55?	750.5?	63.3	17.4	71	WSW	.....	.....	6	.....	9	.....	.....	0.004	0.1	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

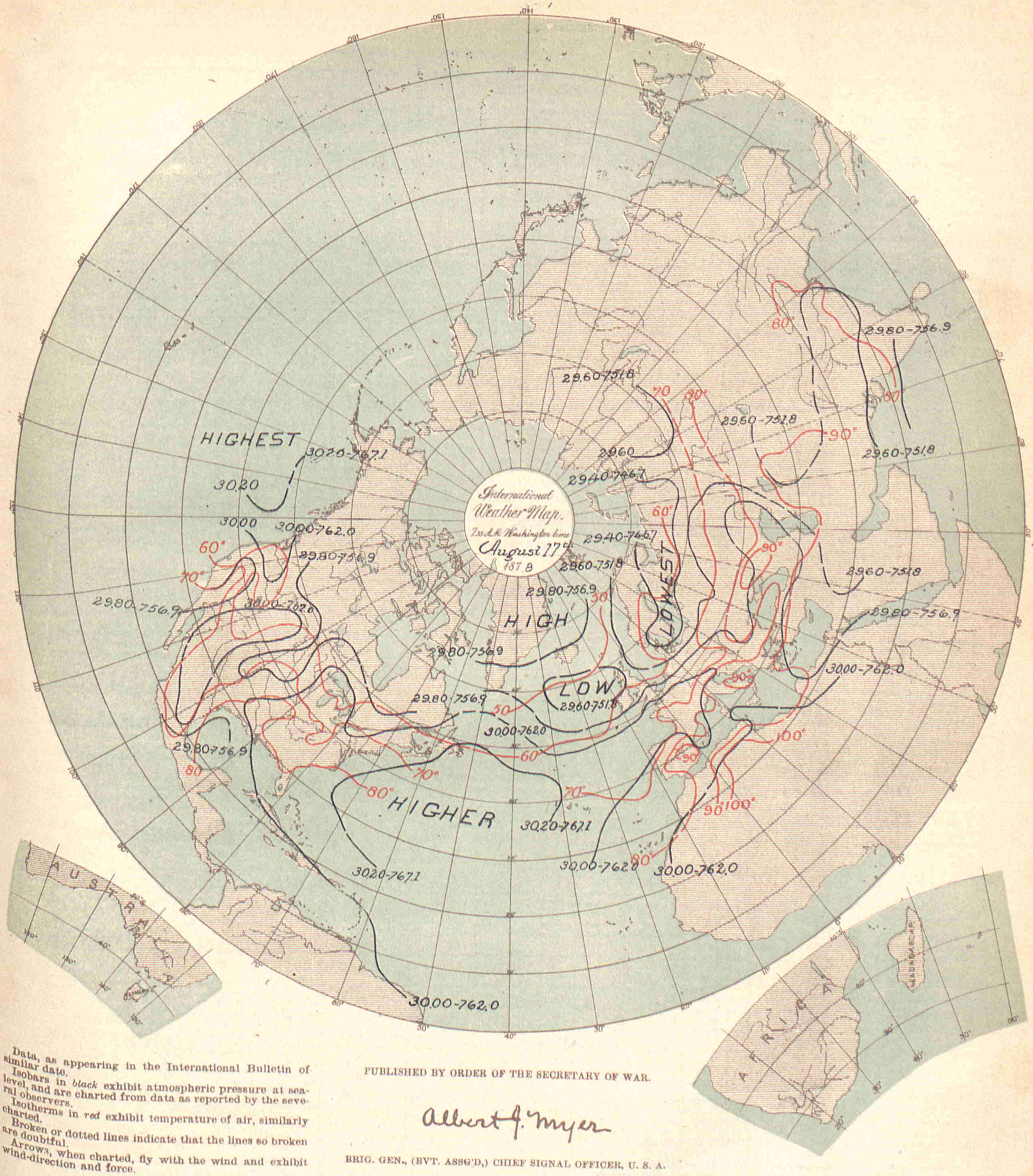
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.56	750.8	29.66	753.4	58.0	14.4	.....	SSE	13	5.8	.....	.....	4	.....	.....	0.010	0.25	Blue sky.....	W. Boswell.
Ardrossan	29.60	751.8	29.62	752.3	57	13.9	.....	S	.....	.....	2	.....	9	.....	.....	.....	.....	Raining	George Carrick.
Armagh, Observatory	.....	.....	29.75	755.6	63.2	17.3	.....	SW	14	6.3	.....	.....	8	.....	.....	.....	.....	D. clouds.....	S.Cail.
Bidston, (Liverpool Obs.)	.....	.....	29.78	756.4	62.0	16.7	.....	SW	23	10.3	.....	.....	10	.....	.....	.....	.....	Overcast	John Hartnup.
Birr Castle, (Parsonstown)	29.58	751.3	29.77	756.1	59.7	15.4	.....	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.42	747.3	29.81	757.2	61.4	16.3	.....	SW	.....	.....	2	.....	10	.....	.....	0.44	11.2	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.95	760.7	29.98	761.5	85.5	29.7	.....	SE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.89	759.2	64.0	17.8	.....	WSW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd. [H.C.
Cardington	.....	.....	29.88	758 9	66.0	18.9	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	John McLaren.
Chatham, School M. E.	29.89	756.9	29.93	760.2	64.7	18.2	.....	SW	.....	.....	3	.....	6	.....	.....	.....	.....	D. clouds.....	Lt. W. G. Morris, R. E.
Dartmoor	28.52	724.4	29.96	761.0	59.0	15.0	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Showery.....	Alexander Watt.
Donaghadee	29.66	753.4	29.69	754.1	60	15.6	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	J. Mac Gowan.
Dover	29.91	759.7	29.94	760.5	66	18.9	.....	WNW	.....	.....	5	.....	1	.....	.....	.....	.....	¾ clouded..	J. Costello.
Eccles, (near Manchester)	.....	.....	29.80	756.9	59.0	15.0	.....	SW	3.4	1.5	.....	.....	10	.....	.....	.....	.....	Drizzling....	Thomas Mackereth.
Falmouth, Observatory	29.81	757.2	30.04	763.0	66.2	19.0	.....	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.79	705.8	30.09	764.3	73.2	22.9	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.81	757.2	30.04	763.0	81	27.2	.....	W	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.71	754.6	63	17.2	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.80	756.9	29.86	758.4	78.0	25.6	.....	W	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.44	747.8	29.64	752.8	55.7	13.2	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	D. G. Maclean.
Great Yarmouth	29.84	757.9	29.85	758.2	62	16.7	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.78	756.4	29.94	760.5	66.1	18.9	.....	W	.....	.....	2	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.83	757.7	30.05	763.3	64	17.8	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.05	763.3	66	18.9	.....	W	.....	.....	4	.....	2c	.....	.....	0.05	1.3	Fine	M. P. Moyle.
Holyhead	29.72	754.9	29.77	756.1	61	16.1	.....	SW	.....	.....	5	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.81	757.2	30.10	764.5	64.9	18.3	.....	W	.....	.....	5	.....	3	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	.....	.....	29.94	760.5	64.8	18.2	.....	WSW	16	7.2	.....	.....	5	.....	.....	.....	.....	D. clouds.....	The Staff.
Kingstown	29.71	754.6	29.74	755.4	64	17.8	.....	WSW	.....	.....	5	.....	9	.....	.....	Blank	Blank	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.87	758.7	62.7	17.1	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	Wm. J Harrison, F.G.S.
Malta, (Mediterranean)	29.81	757.2	29.89	759.2	86.3	30.2	.....	NE	.....	.....	1	.....	3k	.....	.....	.....	.....	D. clouds.....	H. J. Becket, A. H. C.
Nairn	29.51	749.5	29.60	751.8	59	15.0	.....	NE	.....	.....	2	.....	5	.....	.....	.....	.....	½ clouded....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.06	763.5	81.5	27.5	.....	SE	.....	.....	1	.....	6	.....	.....	Blank	Blank	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.66	753.4	29.84	757.9	66.7	19.3	.....	WSW	.....	.....	5	.....	8c;k;d	.....	;WSW	0	0	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.35	745.5	29.86	758.4	60.8	16.0	.....	SW	.....	.....	5–6	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.93	760.2	64	17.8	.....	W	.....	.....	4	.....	10	.....	.....	.....	.....	Threatening	H.E. Bellamy.
Plymouth	29.93	760.2	30.00	762.0	63.8	17.7	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.81	757.2	29.86	758.4	64	17.8	.....	W	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy.....	W. Kennedy.
Saint Ann's Head	29.73	755.1	29.89	759.2	63	17.2	.....	WSW	.....	.....	5	.....	4	.....	.....	.....	.....	Showery.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.64	752.8	55.6	13.1	.....	N	7	3.1	.....	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.81	757.2	86.2	30.1	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.48	748.8	29.75	755.6	62.6	17.0	.....	SW	.....	.....	4	.....	6	.....	.....	0.05	1.3	D. clouds.....	W. F. Cooper.
Silloth Rectory	29.67	753.6	29.70	754.4	58.0	14.4	87	SW	.....	.....	3	.....	10	.....	.....	0.155	3.94	Overcast.....	C. Edith Redford.
Stonyhurst, Observatory	29.46	746.7	29.80	756.9	55.4	13.0	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. S. J. Perry.
Stornoway, Lewis C. (Hebr.)	29.52	749.8	29.55	750.6	57	13.9	.....	S	.....	.....	4	.....	5	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S.
Thurso	.....	.....	29.63	752.6	61	16.1	.....	NNW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	30.04	763.0	69	20.6	.....	W	.....	.....	6	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.87	758.7	63.6	17.6	.....	WSW	32	14.3	.....	.....	8	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.82	757.4	53	11.7	75	NW	.....	.....	5	.....	7k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.06	763.5	30.25	768.3	73.6	23.1	72	SE	17.5	7.8	.....	0	4	.....	SE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.18	766.6	30.27	768.8	48.0	8.9	83	WSW	18	8.0	.....	.....	10	.....	.....	0.25	6.4	Threatening	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Mouland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 50° 25', W. 51° 0'	4	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	.....
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Don	.....	.....	.....	A. S. Thomson.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
S. S. Hibernia	.....	.....	.....	Capt. W. R. Cato
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
Barque Maroon	.....	.....	.....	Capt. A. T. Brown.
Ship Mikado	.....	.....	.....	Capt. C. C. Prehn.
S. S. Naid	.....	.....	.....	Capt. J. Smith. [R.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Royal Alice	.....	.....	.....	Capt. E. M. Hughes.
S. S. Seine	.....	.....	.....	Capt. H. Manning.
Barque Sorata	.....	.....	.....	.....
Schooner Traveller, N. 39° 40', W. 74° 0'	2	.....	Raining.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.24	666.5			68.4	20.2	89	NE			2	4ck;p	2s			Inap.	Inap		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.37	746.1	29.42	747.3	63.7	17.6	78	NW			2		9					Raining	
Faröe	29.18	748.8	29.50	749.3	66.4	19.1	77	W			6		8						
Godthaab, (Greenland)	29.72	754.8	29.76	755.9	42.6	5.9	97	ENE			2		10					Foggy	
Stykkisholm, (Iceland)	29.66	753.3	29.70	754.4	49.3	9.6	76	NE			6		0						
Thorshavn, (Faröe)	29.60	751.7	29.63	752.6	52.3	11.3	62	W			2		6						
Vestervig	29.29	744.0	29.46	748.3	64.0	17.8	84	WNW			4		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.31	744.5	29.86	758.5	65.1	18.4	71	WNW			3		2	NW	NW	0.16	4.	Slightly cl'dy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.98	761.5	30.06	763.5	79.7	26.5	42	NNW			2		0			0	0	Very clear..	M. Giraud, Director.
Bar-sur-Seine	29.56	750.7	30.10	764.5	68.7	20.4	45	WNW			1		8kn		W	0.106	2.7	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.76	756.0	30.04	763.1	68.0	20.0	50	W			2		5		NW	0.354	9.00	Cloudy	Frere Eugene Marie, Director.
Besançon	29.24	742.8	30.12	765.0	68.4	20.2	64	SSW			4		5		W	0.12	3.	Cloudy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.55	750.5	30.08	764.1	66.6	19.2	61	W			1		10k		W	0	0	Lightly cov'd	A. Wagner, Director.
Brest, Naval Observatory	29.79	756.6	30.03	762.8	73.8	23.2	66	W			2		6		W	0.010	0.25		The Staff.
Carcassonne, Normal School	29.69	754.2	30.09	764.3	78.4	25.8	44	NNW			2		2	W		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.50	749.4	30.06	763.5	70.5	21.4	89	W			4		4		E	0.165	4.2		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.76	755.9	30.07	763.7	67.5	19.7	57	SW			4		5	NE	NE	0.157	4.0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.78	730.9	30.08	764.1	74.3	23.5	34	W			1				W	0.012	0.3		Alluard, Director.
Commercy, Normal School	29.24	742.7	30.10	764.6	64.4	18	55	SW			3		5kn		SW	0.335	8.5	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.92	760.0	30.09	764.2	71.6	22.0	63	W			1		5		W	0.039	1.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.79	756.6	30.09	764.3	68.7	20.4	59	W			1		5		SW	0.364	9.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.23	742.4	30.10	764.6	75.2	24	50	SW			2		5		SW	0.173	4.40	Cloudy	Baudry, Director.
Lorient, Naval Observatory	30.02	762.6	30.12	765.1	69.4	20.8	57	W			2		2		W	0	0	¼ covered	T. Carré, Director.
Mâcon, Normal School					72.1	22.3	83	SE			3		5		SE	0	0	Cloudy	M. Galzin, Director
Mirecourt, Normal School	29.00	736.6	30.02	762.5	64.6	18.1	57	W			4	2c			W	0.04	1.	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	29.98	761.5	30.18	766.5	80.2	26.8	37	N			4		0			0	0	Clear	Boyer, Director.
Privas, Normal School	29.06	738.0	30.09	764.2	74.3	23.5	49	N			1		n	S	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.32	643.0			50.2	10.1	81	W			2					0.126	3.2		Alluard, Director.
Rochefort, Naval Obs'y	30.13	765.2	30.16	766.0	74.3	23.5	59	SW			2		0			0	0	Clear	M. Giguel, Director.
Rouen, Normal School	29.97	761.3	30.06	763.5	67.8	19.9	54	W			2		5		W	0.622	15.8	Cloudy	F. Lucard, Director.
Saint Malo (Port)			30.10	764.4	65.7	18.7	58	NW			2		1		NW	0.028	0.70	Clear	M. H. Hercouet.
Tarbes, Normal School	29.01	736.9	30.02	762.4	71.6	22	66	E			2		10			0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.1	29.87	758.8	80.6	27										0	0		L'Abbé Marches.
Lyons			30.23	767.9	81.0	27.2	37						0			0	0		L. Jays.
Marseilles, Observatory			29.99	761.8	81.1	27.3	28	NW			2–3		0			0	0	Clear	The Staff.
Mont-Louis	25.01	635.2	30.28	769.2	64.4	18.0	49	NNE	24.2	10.83			3		SW	0	0		M. Cave.
Nice			29.90	759.5	79.3	26.3	65	E			4		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.79	756.6	30.07	763.6	69.3	20.7	51	WSW			3		3			0.071	1.8		Marié Davy, Director
Perpignan			30.10	764.4	80.1	26.7	45	NE	9.3	4.17			1		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.69	576.2			52.2	11.2		SW			2		6?			0	0	Clear?	Gen'l de Nansou y
Saint Maur, (near Paris)	29.90	759.5	30.07	763.7	69.8	21.0	49	WSW			2		3		W	0	0		E. Renou.
Toulouse, Observatory	29.45	748.1	30.18	766.5	70.5	21.4	61	NNW			2		9			0	0		The Staff.
Tours	29.76?	756.0?	29.96?	761.0?	72.7	22.6	53	E?			3		2		W	0.110	2.8		C. Marquet.
Versailles			30.08	764.1	70.9	21.6	33	NW			2		5			0.069	1.75	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.83	757.7	29.85	758.3	76.3	24.6	95	E	6.0	2.7		3ck				0.177	4.5	Fair	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.97	735.7	29.80	756.8	69.8	21.0	71	W			3		3	W		0	0		Prof. Dr. Hoh.
Berlin	29.55	750.5	29.71	754.7	67.6	19.8	52	SW			4		5			0.138	3.5		Prof. Arndt.
Breslau	29.29	743.9	29.82	757.3	74.1	23.4	45	NW			7		4			0	0		Royal University Obs'y
Carlsruhe	29.60	751.8	30.02	762.4	68.0	20.0	55	W			4		1			0.102	2.6		Albert Senz.
Cassel	29.29	744.0	29.89	759.3	64.0	17.8	58	WNW			5		7	W		0.207	5.26	Thunder-storm	Dr. H. Möhl.
Crefeld	29.72	755.0	29.89	759.1	64.2	17.9	59	W			6		9			0.39	10.		Director Lose.
Emden	29.68	753.9	29.72	754.9	60.3	15.7	94	WNW			3		10	NW		1.091	27.7		Prof. Prestel.
Frankfort on the Main	29.61	752.1	29.97	761.1	70.7	21.5		WSW			5		7			0.004	0.1		Physical Society.
Friedrichshafen	28.65	727.7	30.05	763.2	67.6	19.8	62	SW			6		7	SW		0	0		M. Wilhelm.
Hamburg	29.56	750.8	29.63	752.5	62.1	16.7	84	W			5		10ks			0.020	0.5	Squally	Captain F. Hegemann.
Kiel	29.56	750.8	29.58	751.2	62.8	17.1	85	WSW			5		10			0.678	17.23		Prof. G. Karsten.
Königsberg, (Prussia)	29.52	749.7	29.60	751 7	62.2	16.8	82	W			5		2			0.035	0.9	Thunder-storm	Prof. E. Luther.
Köslin			29.56	750.9	67.3	19.6		SW			6		2			0	0		H. Müller.
Leipsic, Observatory	29.42	747.2	29.83	757.6	67.3	19.6	56	W			6		8	WSW		0.028	0.7	Rainy	Prof. Bruhns.
Memel, Naval School	29.50	749.2	29.54	750.4	65.3	18.5	76	WSW			6		10n						Reinbrecht and Skalweit.
Neufahrwasser	29.58	751.4	29.60	751.8	70.2	21.2	68	WNW			3		8			0.102	2.6		A. Lothes.
Posen	29.43	747.6	29.72	754.8	60.8	16.0	89	W			2		10			0.315	8.0		Dr. Magener.
Strassburg (in Alsace)	29.54	750.2	30.07	763.8	70.3	21.3	47	W			5		3	W		0	0		Astronomical Observatory.
Stuttgart	29.10	739.2	30.01	762.2	68.0	20.0	49	W			1		4	W		0.016	0.4		Prof. Schoder.
Treves, (Trier)	29.58?	751.2?	30.10?	764.57	68.2	20.1	46	W			7		8			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.52	724.5	29.98	761.6	60.1	15.6	77	WSW	8.0	3.6			9ck?		W	0.020	0.5	Light rain	Dr. Von Bebber.
Wustrow, Naval School	29.52	749.8	29.56	750.8	65.5	18.6	71	SW			7		8			0.322	8.2		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.46	748.2	29.82	757.5	93.6	34.2		SW			2.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee								W					10		W	0	0	Overcast	
Deesa	29.12	739.7	29.59	751.7	81.0	27.2	89	WSW	19	8.5			7	N	SSW	0.03	0.8	D. clouds	
Bombay	29.70	754.5	29.74	755.5	82.1	27.8	88	W					8	E	W	0.54	13.7	D. clouds	
Poona	27.74	704.7	29.75	755.7	75.2	24.0	82	E	2.1	0.9			10		SE	Inap	Inap.	D. clouds	
Lahore	28.76	730.6	29.56	749.2	80.5	26.9	87	W	7	3.1			5		W	0.05	1.3	D. clouds	
Belgaum	27.28	693.0	29.83	757.8	72.8	22.7	91												
Bangalore								Calm	2.6	1.2			10			0.78	19.8	Gloomy	
Roorkee	28.63	727.2	29.52	749.7	81.2	27.3	83	S					8		S	0	0		
Agra	29.00	736.5	29.55	750.6	85.7	29.8	76												
Trichinopoly								W	5.7	2.6			10			0.30	7.6	Overcast	
Nagpur	28.57	725.7	29.61	752.1	78.6	25.9	82												
Madras																			
Lucknow													3			0	0	D. clouds	
Allahabad	29.26	743.2	29.57	751.1	80.9	27.2	91	Calm	2.3	1.0			8	E	E	0	0	D. clouds	
Patna	29.35	745.4	29.53	750.0	87.4	30.8	72	E	1.5	0.7			10		W	1.04	26.4	Thunder-storm	
Hazaribagh	27.54	699.6	29.54	750.3	76.8	24.9	85	NNW	6.9	3.1			9			0.56	14.2	D. clouds	
Cuttack	29.50	749.4	29.59	751.5	81.3	27.4	85	Calm	4.4	2.0			10		W	0	0	Overcast	
Calcutta (Alipore)	29.54	750.4	29.57	751.1	81.8	27.7	91	S	9.0	4.0			10			0.21	5.3	Overcast	
Goalpara	29.23	742.4	29.62	752.2	77.8	25.4	95	ESE	8.5	3.8			10			0.40	10.2	Gloomy	
Chittagong	29.61	752.0	29.70	754.4	77.1	25.1	93	E	7.5	3.4			10			2.46	62.5	Raining	
Sibsagar	29.34	745.2	29.67	753.6	83.2	28.4	86	SW	3.1	1.4									
Rangoon													10			0.28	7.1	Drizzling	
Jubbulpore	28.18	715.8	29.54	750.2	78.8	26.0	87	NW	6.6	3.0									

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.0	29.92	760.0	82.9	28.3	62	SE	6.3	2.8	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.78	756.4	29.89	759.1	84.2	29.0	47	W	14.3	6.4	.....	.....	1	WSW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.69	754.1	29.87	758.7	86.9	30.5	41	SW	7.4	3.3	.....	.....	1	.....	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.64	727.5	29.89	759.2	84.2	29.0	58	W	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.39	746.6	29.89	759.2	82.6	28.1	52	N	.....	.....	2	.....	2	NW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.03	737.4	29.90	759.4	78.8	26.0	53	W	1.8	0.8	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.04	712.2	29.86	758.5	77.5	25.3	36	NNW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.72	754.8	29.93	760.2	77.2	25.1	79	ESE	.....	.....	4	.....	4	E	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.77	756.2	29.94	760.4	79.5	26.4	67	SE	.....	.....	6	.....	0	.....	.....	0.004	0.1	.....	Prof. G. M. Garibaldi.
Parma	29.58	751.4	29.89	759.1	86.7	30.4	38	WNW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.69	754.2	29.94	760.4	86.0	30.0	45	W	.....	.....	4	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.85	758.3	29.94	760.4	82.9	28.3	69	S	3.1	1.4	.....	.....	4	W	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.84	757.8	29.88	759.0	89.6	32.0	40	SW	.....	.....	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.43	722.1	29.91	759.7	83.1	28.4	45	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. P. Serpieri.
Grosseto	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Avv. P. Ponticelli.
Rome	29.78	756.3	29.95	760.6	88.9	31.2	58	S	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.78	756.3	29.97	761.2	85.1	29.5	53	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.63	752.6	29.87	758.8	91.4	33.0	39	SE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.74	755.4	29.93	760.1	83.7	28.7	71	SE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.04	737.7	29.88	759.0	93.9	34.4	54	SW	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.71	754.7	29.96	760.9	83.7	28.7	51	E	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.83	757 7	29.91	759.6	83.7	28.7	62	E	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.39	746.5	29.95	760.6	85.1	29.5	61	ESE	1.3	0.6	.....	.....	2	E	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.71	754.6	29.90	759.4	77.5	25.3	87	NE	1.4	0.6	.....	.....	0	.....	.....	0	0	Fair	
Tokei (Yeddo) Observatory	29.88	758.9	29.94	760.5	74.9	23.8	90	SE	2.0	0.9	.....	.....	.....	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) University	29.83	757.7	29.93	760.1	73.8	23.2	98	SE	3.5	1.6	.....	6ck	.....	N	.....	0.05	1.3	Fair	Prof. F. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Aguascalientes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. N. Marin, M. D.
Córdoba	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	C. Peña, M. D.
Cuernavaca	.....	.....	.....	.....	63.5	17.5	92	E	1.8	0.8	.....	0	7ks	....	N	0.08	2.0	Cloudy	L. Castillo, A. E.
Guadalajara	25.01	635.3	29.95	760.7	58.6	14.8	93	SW	0.9	0.4	.....	0	0	.....	.....	0.63	16.0	Foggy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	24.38	619.2	29.88	759.1	64.5	18.1	72	NW	0.9	0.4	.....	1c	2k	NE	.....	0	0	Clear	Prof. M. Leal.
Mexico	23.09	585.3	30.00	762.0	57.2	14.0	90	NW	2.2	1.0	.....	0	10k	.....	N	0.01	0.3	Covered	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.6	17.0	82	NW	0.9	0.4	.....	0	9ks	.....	NE	Inap.	Inap.	Very cloudy	M. V. de Leon, M. E.
Puebla	23.26	590.8	29.84	757.9	58.5	14.7	84	N	3.1	1.4	.....	0	10n	.....	N	0.25	6.3	Rainy	Prof. B. Gonzalez.
Tlacotalpam	29.69	754.0	29.70	754.3	77.0	25.0	91	S	5.1	2.3	.....	0	10ks	.....	N	0	0	Covered	Prof. F. R. Bayly.
San Luis Potosi	24.19	613.7	30.06	763.4	63.0	17.2	42	ESE	0.9	0.4	.....	0	7	.....	ESE	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.73	755.3	29.76	755.9	78.8	26.0	88	Calm	0	0	.....	0	10n	.....	.....	0.04	1.0	Dark	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	56.3	13.5	86	SW	0.9	0.4	.....	3	0	S	.....	0.01	1.0	Clear	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.19	589.1	29.94	760.5	57.2	14.0	89	NE	4.5	2.0	.....	0	10	.....	N	0.32	8.0	Covered	Prof. P. Spina, [M. M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.30	718.9	29.92	760.0	78.8	26.0	79	E	0.9	0.4	.....	0	8	.....	.....	1.22	31.0	Cloudy	R. Banda, C. E.
San Juan E. Michapam	29.58	751.3	29.72	755.0	79.5	26.4	.....	SE	1.8	0.8	.....	4ck	6s	NW	.....	0	0	Covered	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Aguascalientes, is 1,861 m., or 6,105.4 ft.; Cordoba, 838 m., or 2,749.3 ft.; Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6. a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.94	760.5	29.94	760.5	65.7	18.7	.....	W	.....	.....	5	.....	.....	.....	.....	0.437	11.1	.....	
Groningen	29.65	753 1	29.71	754.5	62.6	17 0	.....	W	.....	.....	5	.....	.....	.....	.....	0.587	14.9	.....	
Helder	29.77	756.1	29.77	756.1	62.1	16.7	.....	W	.....	.....	5	.....	.....	.....	.....	0.020	0.5	.....	
Hellevoetsluis	29.86	758.4	29.86	758.4	62.1	16.7	94	WSW	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.82	757.4	29.87	758.6	59.9	15.5	85	WSW	.....	.....	5	.....	8	.....	.....	0.744	18.9	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.40	746 7	29.45	748.1	59.0	15.0	68	NNW	14.3	6.4	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.43	747.6	29.47	748.6	55.8	13.2	73	NNE	7	3	.....	.....	5	.....	.....	0	0	.....	
Christiania	29.25	743.0	29.39	746.6	65.3	18.5	67	ESE	7	3	.....	.....	9	.....	.....	0.047	1.2	.....	
Tromsö	29.44	747.8	29.48	748.9	53.2	11.8	72	NNE	9	4	.....	.....	10	.....	.....	0.047	1.2	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.91	759.6	30.10	764.4	70 7	21.5	61	SE	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.7	29.93	760.3	85.1	29.5	25	ESE	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.81	758.0	29.93	760.3	78.6	25.9	67	WSW	8.1	3.6	.....	.....	3	.....	.....	0.110	2.8	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.58	751.4	29.93	760.3	75.9	24.4	39	S	6.9	3.1	.....	.....	3	ENE	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.02	762.6	30.10	764.4	73.4	23.0	54	NE	12.5	5.6	.....	.....	5	.....	.....	0.031	0.8	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—			Observer
Bartholomew Dias	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 44', W. 25° 41'	2	.....	D. clouds	E	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47', E. 11° 47'	1	.....	D. Clouds	WSW	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53', W. 23° 34'	2	SE	D. clouds	.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	1	.....	D. clouds	W	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.28	743.8	29.68	753.9	76.6	24.8	46	WSW	20	9	.....	.....	6ck	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.21	741.9	29.61	752.1	69.4	20.8	79	S	7	3	.....	.....	10	.....	.....	.....	.....	Thunder-storm.	Astronomical Obs.
Dorpat	29.33	745.0	29.56	750.9	70.3	21.3	60	SE	4	2	.....	.....	6k;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.55	750.6	29.57	751.0	63.5	17.5	71	NW	16	7	.....	.....	2ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.08	738.6	29.68	753.8	79.5	26.4	58	NW	18	8	.....	.....	4ck	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.82	757.4	29.89	759.2	84.6	29.2	42	SSW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.91	759.6	29.93	760.1	83.8	28.8	73	ESE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.12	739.6	29.65	753 0	63.9	17.7	92	S	9	4	.....	.....	10s	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.56	750 7	29.74	755 5	91.0	32 8	29	SW	31	14	.....	.....	4k	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.32	744.6	29.34	745.1	56.7	13.7	82	W	9	4	.....	.....	10	.....	.....	.....	.....	Raining	Ogorodnikof.
Tiflis	28.58	725.8	29.90	759.5	89.4	31.9	33	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.95	760.7	29.87	758.6	85.1	29.5	29	NNE	7	3	.....	.....	3cs	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.41	746.9	29.66	753 3	75.4	24.1	44	Calm	0	0	.....	.....	4k	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.72	729.5	29.61	752.1	77.9	25.5	49	S	7	3	.....	.....	4ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.3	29.64	752.8	93.4	34.1	31	SSW	2	1	.....	.....	1k	.....	.....	.....	.....	.....	
Kasaly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bobrof.
Tashkend	28.13	714.4	29.72	754.9	82.0	27.8	27	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.05	737.8	29.53	750.1	80.1	26.7	40	NNE	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.46	748 2	29.74	755.3	64.2	17.9	72	N	9	4	.....	.....	7	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.71	754.6	29.85	758.2	79.9	26.6	92	Calm	0	0	.....	.....	3k	.....	.....	.....	.....	Lightning	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.93	760.2	30.03	762.8	81.5	27.5	64	E	1.1	0.50	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.87	758.6	29.92	760 0	76.6	24.8	69	NW	3.9	1.75	.....	.....	10	.....	.....	0.031	0.8	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.11	688.7	.....	.....	64.4	18.0	72	NE	8.3	3.71	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez
Madrid, Royal Observatory	27.76	705.0	29.83	757.7	90.7	32.6	34	SE	9.7	4.34	.....	1	0	S	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.81	757.1	29.95	760.7	87.8	31.0	56	E	6.8	3.03	.....	2	6	WNW	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.10	739.0	29.97	761.2	68.9	20.5	76	NE	12.4	5.56	.....	4	3	W	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.96	761.1	30.03	762.8	80.6	26.9	75	SSE	6.3	2.8	.....	6ck	0	SSE	.....	Inap.	Inap.	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.82	757.5	29.92	759.9	78.6	25.9	60	SSW	10.7	4.8	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.2	30.02	762.5	85.3	29.6	81	NE	13.1	5.88	.....	3k	6k	SE	SE	0.118	3.00	Cloudy	Leonardo de Toledo, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.54	750.3	29.58	751.3	58 6	14.8	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.46	748.2	29.51	749.5	64.4	18.0	55	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Hernosand	29.44	747.7	29.49	749.0	64.4	18.0	73	ESE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Stockholm	29.24	742.6	29.41	747.1	62.2	16.8	100	E	.....	.....	2	.....	10	.....	.....	0.205	5.2	.....	
Wisby	29.35	745.4	29.40	746.7	70.5	21.4	72	W	.....	.....	6	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.35	745.4	29.42	747.3	60.6	15.9	93	W	2.9	1.3	.....	.....	10	.....	SSE	0.620	15.74	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.70	728.9	30.07	761.8	72.3	22.4	42	S	.....	.....	2	.....	1	.....	.....	0.035	0.9	Clear	The Observatory.
Zurich	28.48	723.4	30.07	763.7	68.0	20.8	60	NW	.....	.....	4	.....	3	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +1.1 mm.; Thermometer, +0.7 cent.; Relative Humidity, —13 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.88	759.0	76.1	24.5	63	NE	9	4.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.04	762.9	82.8	28.2	.....	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.58	751.3	29.70	754.3	94.1	34.5	60	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.00	762.0	30.07	763.8	67.9	19.9	94	Calm	0	0	.....	.....	10n	.....	.....	0	0	Cloudy	Hon. J. Ferguson.
Brockville, Ontario	29.68	753.9	29.96	761.0	74	23.3	.....	S	1	0.4	.....	.....	8s	.....	S	1.64	41.7	Cloudy	W. R. Bigg.
*Chatham, N B	30.05	763.3	30.11	764.8	67	19.4	95	S	1	0.4	.....	.....	Haze	.....	Calm	0	0	Hazy	G. A. Blair.
Charlottetown, P. E. Island	30.12	765.0	30.16	766.1	68	20.0	91	S	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.94	760 5	68.7	20.4	93	S	.....	.....	1	2cs	4s	W	.....	0.870	22,10	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.93	760 2	30.09	764.3	65	18.3	100	E	.....	.....	1	.....	.....	.....	.....	0.03	0.8	Gloomy	H. A. Johnson.
Esquimault, B. C	29.94	760.5	29.99	761.7	53.2	11.8	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	30.00	762.0	30.02	762.5	61	16.1	86	N	2	0.9	5k	Fog	N	NE	0	0	Foggy	J. McWilliams.
Fredericton, N. B	30.06	763.5	30.12	765.0	66.8	19.3	99	SE	3	1.3	.....	10n	.....	.....	0.14	3.6	Light rain	Prof. Harrison.
*Fort Garry Manitoba	29.13	739.9	29.95	760 7	50	10.0	93	S	7	3.1	.....	2c	2s	S	S	0	0	Fair	James Stewart.
Granton, Ontario	28.94	735.1	30.00	762.0	64	17.8	100	NW	.....	.....	1	0	0	.....	.....	0.031	0.78	Clear	James Grant.
*Halifax, N. S	30.02	762.5	30.14	765.5	68	20.0	97	SW	3	1.3	.....	.....	10n	.....	.....	0.110	2.7	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.67	753 6	30.02	762.5	67.3	19.6	86	NW	.....	.....	2	2ck	0	NW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	30.20	767.1	30.23	767.8	58	14.4	79	N	.....	.....	1	0	1ks	.....	.....	0.29	7.4	Fine	E. Weedon.
*Kingston, Ontario	29.67	753.6	29.99	761.7	69	20.6	94	SE	3	1.3	.....	.....	10ks	.....	Calm	0.59	15.0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	W	8	3.6	.....	4k	0	W	.....	0.08	2.0	Fair	C. H. Rigby.
*Montreal, Quebec	29.79	756.7	29.98	761.5	67	19.4	91	W	8	3.6	.....	2k	5ks	SW	.....	0.04	1.0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.30	744.2	29.98	761.5	63	17.2	96	E	3	1.3	.....	2cs	0	SW	.....	0.33	8.4	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.26	743.2	29.99	761.7	67.2	19.6	87	S	.....	.....	2	8k	0	.....	.....	0.31	7.9	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.34	745.2	30.01	762.2	66	18.9	95	SW	4	1.8	.....	5k	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.13	765.3	30.18	766.6	66.6	19.2	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Cloudy	Peter Grant.
Port Stanley, Ontario	29.40	746.7	30.03	762.7	64	17.8	86	W	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	M. Payne.
*Quebec, Quebec	29.70	754.4	30.01	762.2	67	19.4	100	E	.....	.....	1	.....	10n	.....	E	0.08	2.0	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.50	749.3	29.95	760,7	65	18.3	87	Calm	0	0	.....	.....	8s	.....	SW	1.15	29.2	Fair	W. H. McIntyre.
St. Andrews, N. B	30.02	762.5	30.07	763.8	61	16.1	95	S	2	0.9	.....	.....	10n	.....	.....	0.58	14.7	Cloudy	Dr. Gove.
St. John, N. B	29.98	761.5	30.14	765.5	63	17.2	97	SE	8	3.6	.....	.....	Fog	.....	.....	0.53	13.5	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.00	762.0	67	19.4	72	NW	11	4.9	.....	2k	0	W	.....	0.44	11.2	Clear	K. Stewart.
Stayner, Ontario	29.23	742.4	29.99	761,7	63	17.2	94	NE	1	0.4	.....	2k	5n	NW	W	0.62	15.7	Light rain	R. J. Cole.
Stratford, Ontario	28.74	730.0	29.98	761,5	62.1	16.7	98	NW	5	2.2	.....	2k;ck	2s	NW	.....	0.535	13.59	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.16	766.1	30.19	766.8	71	21.7	88	W	3	1.3	.....	8ck	0	Calm	.....	Inap.	Inap.	Fair	T. C. Hill.
*Toronto, Ontario	29.63	752.6	30.00	762.0	67	19.4	96	SW	3	1.3	.....	5k	5ks	W	W	0.50	12.7	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	72	NE	.....	.....	.....	0	2s	.....	.....	Blank	Blank	Fair	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0–10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.82	757.4	30.04	763.0	72	22.2	85	S	5	2.2	.....	5k	5s	SW	S	0	0	Cloudy	
Alpena, Michigan	29.38	746.2	30.01	762.2	60	15.6	82	W	6	2.7	.....	2ck	0	W	.....	6	0	Fair	
Atlantic City, New Jersey	30.09	764.3	30.11	764.8	70	21.1	100	SW	8	3.6	.....	.....	10n	.....	Calm	0.90	22.9	Light rain	
Augusta, Georgia	29.96	761.0	30.14	765.5	79	26.1	86	Calm	0	0	.....	5c	2ks	S	N	0.45	11.4	Fair	
Baltimore, Maryland	30.04	763.0	30.09	764.3	74	23.3	90	SE	3	1.3	.....	10k	Sm'e	NW	Calm	1.54	39.1	Cloudy	
Barnegat, New Jersey	30.09	764.3	30.11	764.8	72	22.2	100	SW	12	5.4	.....	.....	10n	.....	Calm	1.26	32.0	Light rain	
Bismarck, Dakota	28.06	712.7	29.92	760.0	63	17.2	94	E	2	0.9	.....	.....	10s	.....	E	0.04	1.0	Cloudy	
Boerne, Texas	28.46	722.9	29.71	754.6	77	25.0	77	NW	2	0.9	.....	0	0	.....	.....	6	0	Clear	
Boise City, Idaho	27.08	687.8	30.01	763.0	60	15.6	82	SW	12	5.4	.....	.....	10s	.....	SW	0.40	10.2	Threatening	
Boston, Massachusetts	29.94	760.5	30.09	764.3	72	22.2	93	SW	7	3.1	.....	.....	10n;fp	.....	Sw;Calm	0.23	5.8	Light rain	
Brackettville, Texas	28.84	732 5	29.84	757.9	73	22.8	85	Calm	0	0	.....	2cs	0	E	.....	0	0	Clear	
Breckenridge, Minnesota	28.89	733.8	29.85	758.2	62	16.7	83	SE	13	5.8	.....	.....	10n	.....	Calm	0.03	0.8	Light rain	
Brownsville, Texas	29.81	757.2	29.88	758.9	78	25.6	95	N	1	0.4	.....	2c	8ks	Calm	E	1.12	28.4	Cloudy	
Buffalo, New York	29.32	744.7	29.99	761.7	71	21.7	80	SW	6	2.7	.....	1k	0	SW	.....	Inap.	Inap.	Clear	
Burkes, Arizona	.....	.....	.....	.....	84	28.9	87	Calm	.....	.....	0	0	0	.....	.....	2.00	50.8	Clear	
Burlington, Vermont	29.78	756.4	30.02	762.5	68	20.0	90	SE	6	2.7	.....	.....	10s	.....	SW	0.45	11.4	Cloudy	
Cairo, Illinois	29.71	754.6	30.08	764.0	80	26.7	75	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	69	20.6	79	Calm	.....	.....	0	.....	10s	.....	W	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.19	639.8	29.99	761.7	71	21.7	66	Calm	.....	.....	0	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Camp Verde, Arizona	26.73	678 9	30.22	767.6	70	21.1	75	S	.....	.....	1	0	0	.....	.....	0.35	8.9	Clear	
Campo, California	27.32	693.9	29.89	759.2	53	11.7	79	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.13	765.3	30.13	765.3	82	27.8	83	SE	11	4.9	.....	8cs	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	30.10	764.5	30.13	765.3	79	26.1	91	SW	6	2.7	.....	.....	10s	.....	SW	0.98	24.9	Cloudy	
Cape Lookout, N. Carolina	30.10	764.5	30.11	764.8	82	27.8	83	E	15	6.7	.....	5c	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.11	764.8	30.14	765.5	70	21.1	95	SE	5	2.2	.....	2k	5n	W	SE	2.64	67.1	Light rain	
Castroville, Texas	29.20	741.7	29.86	758.4	81	27.2	78	SE	2	0.9	.....	2k	0	S	.....	0	0	Fair	
Charleston, South Carolina	30.08	764.0	30.15	765.8	80	26.7	91	NE	4	1.8	.....	0	8s	.....	NE	0	0	Fair	
Cheyenne, Wyoming	24.08	611.6	30.02	762.5	63	17.2	57	W	12	5.4	.....	2ck	5s	E	W	Inap	Inap.	Cloudy	
Chicago, Illinois	29.35	745.5	30.02	762.5	65	18.3	73	NE	1	0.4	.....	2ck	Sm'e	NW	.....	0	0	Fair	
Cincinnati Ohio	29.40	746.7	30.02	762.5	75	23.9	72	SE	2	0.9	.....	1c	Sm'e	NW	Calm	0	0	Smoky	
Cleveland, Ohio	29.34	745.2	30.04	763.0	70	21.1	61	W	6	2.7	.....	1k	0	W	.....	1.34	34.0	Clear	
Coleman City, Texas	28.24	717.3	29.84	757.9	73	22.8	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.24	742.7	30.05	763 3	68	20.0	90	N	3	1.3	.....	2k	0	NW	.....	0.22	5.6	Fair	
Concho, Texas	28.12	714.2	29.75	755.6	68	20.0	74	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.54	750.3	30.00	762.0	74	23.3	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.45	748.0	30.07	763.8	65	18.3	78	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	
Denison, Texas	29.24	742 7	30.00	762.0	76	24.4	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.81	630.2	30.03	762.7	62	16.7	83	SW	6	2.7	.....	0	5s	.....	SW	0.05	1.3	Fair	
Des Moines, Iowa	29.08	738.6	29.92	760.0	66	18.9	74	NE	.....	.....	1	.....	10n	.....	NE	0.66	16.8	Light rain	
Detroit, Michigan	29.40	746 7	30.05	763.3	61	16.1	77	NW	3	1.3	.....	0	0	.....	.....	0.57	14.5	Clear	
Dodge City, Kansas	27.39	695.7	29.56	750.8	73	22.8	67	SW	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.38	746.2	30.06	763.5	63	17.2	78	SW	1	0.4	.....	5ck	5s	W	SW	0	0	Cloudy	
Duluth, Minnesota	29.39	746.5	30.06	763.5	55	12.8	87	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Eagle Pass, Texas	29.19	741 4	29.89	759.2	77	25.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.00	762.0	30.07	763.8	62	16.7	88	SE	2	0.9	.....	.....	Fog	.....	Calm	1.43	36.3	Foggy	
El Paso, Texas	.....	.....	.....	.....	81	27.2	49	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.32	744.7	30.01	762.2	72	22.2	85	SW	4	1.8	.....	2k	5s	W	.....	0.09	2.3	Cloudy	
Escanaba, Michigan	29.42	747.3	30.07	763.8	56	13.3	87	W	8	3.6	.....	0	0	.....	.....	0.17	4.3	Clear	
Florence, Arizona	.....	.....	.....	.....	80	26.7	66	Calm	.....	.....	0	0	5s	E	E	0	0	Fair	
Fort Craig, New Mexico	25.57	649.5	29.63	752.6	67	19.4	60	Calm	0	0	.....	5cs	5s	S	S	0	0	Cloudy	
Fort Davis, Texas	25.27	641.8	30.23	767.8	67	19.4	60	NW	2	0.9	.....	2c	0	NW	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.18	748 8	29.99	761.7	76	24.4	91	Calm	0	0	.....	0	0	.....	.....	0.10	2.5	Clear	
Fort Griffin, Texas	28.76	730.5	29.99	761.7	71	21.7	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.81	706.4	29.65	753.1	75	23.9	64	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.92	760.0	75	23.9	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.28	718.3	29.76	755.9	80	26.7	41	Calm	0	0	.....	2k	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.94	759.4	29.94	760.5	81	27.2	87	NE	18	8.0	.....	.....	10ks	.....	E	0.40	10.2	Cloudy	
Graham, Texas	29.04	735.1	29.95	760.7	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.42	747 3	30.05	763.5	68	20.0	79	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	
Indianapolis, Indiana	29.30	744.2	30.05	763.3	69	20.6	85	W	2	0.9	.....	5cs	5s	Calm	Calm	0	0	Fair	
Indianola, Texas	29.02	760.0	29.94	760.5	80	26.7	91	NE	19	8.5	.....	.....	10ks	.....	NE	0.32	8.1	Threatening	
Jacksboro, Texas	28.89	733.8	29.97	761.2	74	23.3	72	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	764.8	30.10	764.5	84	28.9	75	E	5	2.2	.....	2k	0	E	.....	0	0	Clear	
Keokuk, Iowa	29.41	747.8	30.04	763.0	64	17.8	94	E	8	3.6	.....	.....	10n	.....	Calm	0.61	15.5	Light rain	
Key West, Florida	30.02	762.5	30.04	763.0	84	28.9	71	SE	9	4.0	.....	2c;k	1ks	Calm;SE	Calm	0	0	Clear	
Kittyhawk, North Carolina	30.14	765.5	30.16	766.1	77	25.0	95	SE	4	1.8	.....	2cs	Fog	Calm	Calm	0.03	0.8	Fair	
Knoxville, Tennessee	29.17	740.9	30.14	765.5	70	21.1	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
La Crosse, Wisconsin	29.31	744.5	30.03	762.7	64	17.8	73	NW	1	0.4	.....	8k	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.03	661.2	30.18	766.6	71	21.7	75	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Laredo, Texas	29.49	749.0	29.81	757.2	77	25.0	91	NE	2	0.9	.....	5cs	0	Calm	.....	0.02	0.5	Fair	
Lead City, Dakota	24.82	630.4	30.09	764.3	64	17.8	83	NW	1	0.4	.....	5ck	0	NW	.....	0	0	Fair	
Leavenworth, Kansas	29.08	738.6	29.88	758.9	73	22.8	85	S	6	2.7	.....	5c;ck	0	Calm;NW	.....	0	0	Fair	
Los Angeles, California	29.48	748.8	29.81	757.2	63	17.2	83	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.52	749.8	30.05	763.3	77	25.0	73	S	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Lynchburg, Virginia	29.44	747.8	30.09	764.3	73	22.8	90	SW	2	0.9	.....	.....	10ks	.....	Calm	1.40	35.6	Cloudy	
Marquette, Michigan	29.33	745.0	30.02	762.5	60	15.6	77	W	4	1.8	.....	5k	0	W	.....	0.75	19.1	Fair	
Mason, Texas	28.38	720.8	30.07	763.8	73	22.8	76	SE	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Memphis, Tennessee	29.77	756.1	30.07	763.8	80	26.7	82	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.36	745.7	30.07	763.8	60	15.6	77	NW	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	30.04	763.0	30.08	764.0	77	25.0	84	NE	5	2 2	.....	1c	1s	Calm	Calm	0.30	7.6	Clear	
Montgomery, Alabama	29.88	758.9	30.11	764.8	76	24.4	81	Calm	0	0	.....	8cs	0	Calm	.....	0.42	10.7	Cloudy	
Morgantown, West Virginia	29.05	737.9	30.06	763.5	73	22.8	67	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear	
Mt. Washington, N. H.	24.01	609.8	30.37	771.4	52	11.1	100	NW	15	6.7	.....	.....	Fog	.....	NW	0.32	8.1	Foggy	
Nashville, Tennessee	29.58	751.3	30.10	764.5	78	25.6	78	Calm	0	0	.....	9	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.99	761.7	30.11	764.8	73	22.8	90	S	4	1.8	.....	.....	10s	.....	NW	1.78	45.2	Cloudy	
New London, Connecticut	30.07	763.8	30.12	765.0	71	21.7	95	Calm	0	0	.....	.....	10s	.....	SW	0.85	21.6	Threatening	
New Orleans, Louisiana	29.95	760.7	30.01	762.2	81	27.2	83	NE	6	2.7	.....	5ck	5ks	NE	E	Inap	Inap.	Fair	
Newport, Rhode Island	30.06	763.5	30.11	764.8	70	21.1	95	SW	4	1.8	.....	.....	10ks	.....	SW	0.54	13.7	Threatening	
New York, New York	29.95	760.7	30.12	765.0	71	21.7	95	SW	1	0.4	.....	.....	10s	.....	Calm	1.35	34.3	Cloudy	
Norfolk, Virginia	30.07	763.8	30.13	765.3	77	25.0	86	S	4	1.8	.....	.....	10s	.....	Calm	1.57	39.9	Cloudy	
North Platte, Nebraska	26.94	684.3	29.37	746.0	68	20.0	95	NW	12	5.4	.....	10k	0	N	.....	0	0	Cloudy	
Olympia, Washington Ter.	29.98	761.5	30.02	762.5	53	11.7	93	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.75	730.2	29.77	756.1	72	22.2	85	SE	6	2.7	.....	2k	2s	SW	Calm	0	0	Fair	
Oswego, New York	29.70	754.4	30.01	762.2	71	21.7	90	S	5	1.3	.....	8c	0	SW	.....	0.09	2.3	Fair	
Pembina, Dakota	29.12	739.6	29.92	760.0	51	10.6	93	SE	8	3.6	.....	0	2s	.....	W	0	0	Clear	
Philadelphia, Pennsylvania	30.07	763.8	30.12	765.0	73	22.8	95	SW	4	1.8	.....	.....	10s;fg	.....	SW;Calm	1.17	29.7	Cloudy	
Phœnix Arizona	28.62	726.9	.....	.....	87	30.6	65	NE	.....	.....	1	0	0	.....	.....	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	43	6.1	59	SW	6	2.7	.....	2c	0	SW	.....	0	0	Clear	
Pioche, Nevada	24.06	611.1	29.83	757.7	59	15.0	76	S	9	4.0	.....	0	2s	.....	Calm	0.30	7.6	Fair	
Pittsburg, Pennsylvania	29.26	743.2	30.04	763.0	70	21.1	85	S	4	1.8	.....	0	0	.....	.....	0.21	5.3	Clear	
Port Huron, Michigan	29.37	746.0	30.02	762.5	61	16.1	77	W	8	3.6	.....	0	0	.....	.....	0.53	13.5	Clear	
Portland, Maine	30.02	762.5	30.07	763.8	70	21.1	90	NE	8	3.6	.....	8k	2s	Calm	Calm	0.90	22.9	Clearing	
Portland, Oregon	29.98	761.5	30.08	764.0	61	16.1	82	NW	1	0.4	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.85	631.2	30.11	764.8	57	13.9	63	Calm	.....	.....	0	5ck	2ks	Calm	Calm	1.06	26.9	Clearing	
Pilot Point, Texas	29.24	742.7	30.04	763.0	75	23.9	85	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.05	763.3	30.07	763.8	83	28.3	83	E	6	2.7	.....	5k	0	E	.....	0	0	Fair	
Red Bluff, California	29.45	748.0	29.79	756.7	70	21.1	40	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.73	755.1	29.94	760.5	80	26.7	74	N	13	5.8	.....	.....	10s	.....	N	Inap.	Inap.	Cloudy	
Rochester, New York	29.39	746.5	29.98	761.5	71	21.7	80	SW	6	2.7	.....	1k	0	Calm	.....	0.06	1.5	Clear	
Roseburg, Oregon	29.50	749.3	30.06	763.5	57.5	14.2	87	Calm	0	0	.....	2ck	8s	N	N	0	0	Cloudy	
Sacramento, California	29.72	754.9	29.80	756.9	67	13.9	84	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Hazy	
St. Louis, Missouri	29.50	749.3	30.05	763.3	74	23.3	81	S	6	2.7	.....	.....	10n	.....	Calm	0.01	0.3	Light rain	
St. Marks, Florida	30.08	764.0	30.09	764.3	76	24.4	95	NE	2	0.9	.....	0	0	.....	.....	1.04	26.4	Clear	
St. Paul, Minnesota	29.16	740.7	29.96	761.0	60	15.6	82	SE	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	63	17.2	78	E	6	2.7	.....	2c	5s	SW	Calm	0.33	8.4	Fair	
San Antonio, Texas	29.27	743.4	29.83	757.7	78	25.6	86	SE	2	0.9	.....	2cs	0	Ca'm	.....	0	0	Clear	
San Diego, California	29.78	756.4	29.84	757.9	67	19.4	89	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.42	747.3	30.07	763.8	69	20.6	65	NW	9	4.0	.....	0	0	.....	.....	0.06	1.5	Clear	
Sandy Hook, New Jersey	30.08	764.0	30.11	764.8	72	22.2	100	NW	3	1.3	.....	.....	10s	.....	NW	2.46	62.5	Cloudy	
San Francisco, California	29.80	756.9	29.87	758.7	54	12.2	87	SW	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	61	16.1	50	E	4	1.8	.....	1c	0	Calm	.....	0	0	Clear	
Savannah, Georgia	30.03	762.7	30.12	765.0	78	25.6	95	NE	3	1.3	.....	.....	10s	.....	NE	0.02	0.5	Cloudy	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	80	26.7	82	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.35	618.5	.....	.....	65	18.3	73	SW	2	0.9	.....	.....	10s	.....	S	0	0	Threatening	
Smithville, North Carolina	30.10	764.5	30.13	765.3	80	26.7	91	NE	8	3.6	.....	5c	2ks	SW	NE	0	0	Cloudy	
Springfield, Massachusetts	29.91	759.7	30.03	762.7	72	22.2	90	S	3	1.3	.....	.....	10ks	.....	S	0.60	15.2	Cloudy	
Stockton, Texas	26.96	684.8	29.96	761.0	64	17.8	38	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.04	763.0	30.09	764.3	66	18.9	95	SW	7	3.1	.....	.....	10s	.....	NW	0.15	3.8	Cloudy	
Toledo, Ohio	29.40	746.7	30.05	763.3	68	20.0	65	W	1	0.4	.....	0	0	.....	.....	0.37	9.4	Clear	
Tucson, Arizona	27.26	692.4	29.81	757.2	76	24.4	90	SE	3	1.3	.....	.....	10s	.....	SE	Inap	Inap.	Threatening	
Tybee Island, Georgia	30.10	764.5	30.13	765.3	81	27.2	87	NE	11	4.9	.....	2c	5ks	Calm	NE	0.10	2.5	Clearing	
Umatilla, Oregon	29.56	750.8	.....	.....	62	16.7	77	SW	12	5.4	.....	.....	10n	.....	SW	0.03	0.8	Light rain	
Uvalde, Texas	29.07	738.4	29.86	758.4	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.82	757.4	30.07	763.8	76	24.4	91	SE	5	2.2	.....	5c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.31	617.5	29.79	756.7	54	12.2	93	Calm	0	0	.....	.....	10s	.....	W	1.05	26.7	Cloudy	
Visalia, California	29.48	748.8	29.84	757.9	66	18.9	59	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.00	762.0	30.11	764.8	74	23.3	95	SW	4	1.8	.....	.....	10n	.....	SW	1.04	26.4	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	30.04	763.0	30.12	765.0	78	25.6	95	NE	8	3.6	.....	8c	0	NE	.....	0	0	Fair	
Winnemucca, Nevada	25.53	648.4	29.89	759.2	56	13.3	63	S	9	4.0	.....	0	Haze	.....	Calm	0.03	0.8	Clear	
Wood's Holl, Mass	30.07	763.8	30.12	765.0	70	21.1	95	S	10	4.5	.....	.....	10n	.....	SW	1.48	37.6	Light rain	
Yankton, Dakota	28.57	725.7	29.80	756.9	66	18.9	84	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.60	751.8	29.75	755.6	81	27.2	74	NE	5	2.2	.....	2c	0	Calm	.....	0.11	2.8	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.70	754.4	29.75	755.6	57.0	13.9	94	S	18	8.0	.....	0	2s	.....	S	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.01	762.2	30.03	762.7	81	27.2	74	SE	4.8	2.1	.....	8c	4ks	SE	NW	0	0	Fair	Chas. Hasselbrink.
St. Thomas	.....	.....	.....	.....	82	27.8	83	E	5	2.2	.....	2c	5ks	E	.....	0.20	5.1	Cloudy	G. O. Gellich.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	78	25.6	90	Calm	0	0	.....	8c	5n	Calm	.....	0.51	13.0	.....	James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	82	27.8	.....	E	5.8	2.6	.....	.....	.....	.....	.....	Inap.	Inap.	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	84	28.9	79	NE	.....	.....	2	4ck	5k	E	.....	0.040	1.02	Fair	C. J. Hering.
Medellin, Colombia, S. A.	25.23	640.8	.....	.....	68.5	20.3	60	SE	1	0.4	.....	0	0	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,860 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,110.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.22	767.6	77	25.0	77	25.0	91	NE	15	6.7	.....	.....	2	.....	NE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.07‡	763.8‡	.....	.....	73	22.8	90	NW	.....	.....	1	.....	10	.....	.....	1.0	25.	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.93*	760.2*	76	24.4	73	22.8	90	Calm	.....	.....	0	.....	1ck	.....	SE	0.16	4.1	.....	.....	Fair.....	
Adams. Apia, Samoan Islands	30.01	762.2	78	25.6	78	25.6	95	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Pleasant...	
Alliance, N. 38° 53′, E. 0° 34′	30.01‡	762.2‡	.....	.....	81	27.2	96	NE	.....	.....	5	.....	5	.....	NE	.....	.....	Mod'ate	N	Cloudy.....	
Ashuelot. Kobe, Japan	30.01	762.2	82	27.8	80	26.7	91	Calm	.....	.....	0	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Alaska. S. 31° 09′, W. 46° 01′	30.54	775.7	64	17.8	61	16.1	71	E	.....	.....	4	.....	2	.....	E	0.08	2.0	Long	E	D. clouds....	
Canonicus, New Orleans, La.	30.04	763.0	57	13.9	81	27.2	91	ENE	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	30.10‡	760.5‡	.....	.....	73	22.8	95	SW	2	0.9	.....	.....	10	.....	WSW	2.03	51.6	.....	.....	Foggy	
Constitution, Havre, France	30.01‡	762.2‡	.....	.....	63	17.2	83	W	.....	.....	4	.....	4	.....	Calm	.....	.....	.....	.....	Pleasant.....	
Despatch. N. 40° 05′ 40″, E 26° 19′ 20″	29.82‡	757.4‡	.....	.....	83	28.3	36	NNE	.....	.....	4	.....	2	.....	NE	.....	.....	.....	.....	Clear.	
Franklin, Norfolk, Va.	30.26	768.6	78	25.6	76	24.4	95	SSE	4	1.8	.....	.....	8	.....	SW	1.56	39.6	.....	.....	D. clouds....	
Gettysburg Villafranca, France	29.86‡	758.4‡	.....	.....	81	27.2	83	ESE	.....	.....	4	.....	0	.....	.....	0	0	Light	S	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.28	769.1	.....	.....	67	19.4	55	SW	7.2	3.2	.....	.....	8	.....	SW	0.09	2.3	.....	.....	Cloudy.....	
Marion, Barcelona, Spain	30.10	764.5	76	24.4	78	25.6	69	E	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Lake Michigan	29.60	751.8	70	21.1	61	16.1	82	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.93‡	760.2‡	.....	.....	77	25.0	86	W	.....	.....	0–1	.....	2	.....	W	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.33	770.4	84	28.9	82	27.8	83	ENE	9	4.0	.....	.....	5	.....	NE	0.06	1 5	.....	.....	Fair.....	
Onward, Callao, Peru	30.08†	761.0†	.....	.....	61	16.1	82	S	.....	.....	1	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	74	23.3	100	WSW	.....	.....	3	.....	10	.....	wsw	Blank	Blank	.....	.....	Cloudy.....	
Palos, Tientsin, China	29.97	761.2	83	28.3	80	26.7	82	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y.	30.33	770.4	75	23.9	74	23.3	95	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	30.04	763.0	87	30.6	86	30.0	84	SSE	.....	.....	1	.....	5	.....	ESE	.....	.....	.....	.....	Fair.....	
Rio Bravo, Brownsville, Texas	29.86	758.4	78	25.6	78	25.6	95	E	.....	.....	.....	.....	8	.....	E	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md	30.06‡	763.5‡	.....	.....	76	24.4	91	W	.....	.....	0–1	.....	10	.....	W	0.25	6.3	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.05	763.3	76	24.4	75	23.9	90	SW	6	2.7	.....	.....	10	.....	SW	1.004	25.50	.....	.....	Threatening	
Supply, Havre, France	30.10	764.5	65	18.3	65	18.3	68	NW	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Swatara, Boston, Mass.	30.06‡	763.5‡	.....	.....	73	22.8	90	SW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Trenton, Cherbourg, France	30.01‡	762.2‡	.....	.....	68	20.0	65	W	.....	.....	3	.....	3	.....	W	0	0	.....	.....	Fair.....	
Tuscarora. Acapulco, Mexico	29.60	751.8	80	26.7	81	27.2	83	NE	.....	.....	0–1	.....	5	.....	Calm	0.5	13.	.....	.....	Fair.....	
Vandalia. Villafranca, France	29.85‡	758.2‡	.....	.....	82	27.8	58	E	.....	.....	3	.....	2	.....	E	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	30.10‡	764.5‡	.....	.....	73	22.8	90	SW	5	2.2	.....	.....	10	.....	Calm	0.15	3.8	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 40° 07′, W. 155° 35′		30.38*	771.6*	68	20.0	100	SSE			3		5		NW	0	Light smooth	NW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Port Townsend, W. T.		30.05†	763.3†				Calm			0		Fog						Foggy	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.82	757.4	82	27.8	91	ESE	3	1.3						0	Smooth		Blue sky	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 14° 37′ W. 94° 32′		29.90†	759.4†	79	26.1	91	ESE			4		10		SE	Blank	Small	SE	Raining	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.04†	763.0†	52	11.1	??	NNW			1		1		NNW	0			Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 41° 17′, W. 60° 42′		30.18*	766.6*	74	23.3	95	SW			2		10		SW	0	None		D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 40° 32′, W. 72° 20′		30.19†	766.8†	72	22.2	100	W			4		8		S	Blank	None		Misty	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 37° 49′, E. 150° 12′		29.71*	754.6*	68	20.0	84	NW			4		k		NW		Smooth	NW	D. clouds	Capt. L. Myer.
S. S. Gaelic																			Capt. W. H. Kidley.
S. S. Oceanic, N. 30° 03′, E. 147° 26′		29.83	757.7	64	17.8	100	NE			3		6		NE		3	NNE	D. clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		29.70*	756.7*	64	17.8	89	NW			4		5		SE	Light			Cloudy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.16†	766.1†	75	23.9	95	NE			2		10		Calm	Mod'ate			Dull	Captain Morrison.
S. S. Pennsylvania, N. 50° 33′, W. 12° 24′		29.99†	761.7†	78	25.6	91	WSW			4		4		WSW	0	Moc'ate	WSW	Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 48° 13′ W. 23° 58′		30.02*	762.5*				SW	18	8.0			8		WSW		Mod'ate	NE	Squally	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, N. 40° 13′, W. 73° 21′		30.13	765.3	74	23.3	90	SSW	4	1.8			10ks		SW	1.08 in or 27.4 mm	Smooth		Squally	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		29.95*	760.7*	44.0	6.7		ENE			2.5	0	1ks		NE				Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d}.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 18, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upper. 0—10.	Clouds. Amount. Lower. 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.02	762.6	84 6	29.2	64	NW	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair...	Kesxuche.
Algiers	.....	.....	29.91	759.6	87.1	30.6	71	WSW	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Touriliere.
La Calle	.....	.....	29.98	761 4	82.4	28.0	82	NNE	.....	.....	2	.....	2	.....	.....	0	0	Fair...	Foufrede.
Tunis	.....	.....	29.98	761 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.03	762.7	91.4	33.0	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30.09	764 2	108.5	42.5	25	SE	.....	.....	4	.....	3	.....	.....	0	0	Pretty fair .	Herbin.
Tebessa	.....	.....	30.00	762.0	89 2	31 8	25	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Watrin.
Geriville	.....	.....	30.16	766.1	95.5	35.3	62	Calm	.....	.....	0	.....	2	.....	.....	0	0	Fair.....	Brugniaux.
Laghouat	.....	.....	30.08	763.9	100.0	37.8	21	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.02	762.4	104.9	40.5	23	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.61	752.0	30.13	765.4	78.1	25.6	46	E	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.32	744.6	30.07	763.7	67.3	19.6	47	W	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Wierzbiski
Eperies	29 11	739.5	29.96	760.9	73.4	23.0	60	Calm	.....	.....	0	.....	4c	.....	.....	0	0	.....	Julius Mikolic.
Gratz	28.88	733.6	30.10	764 4	71.2	21.8	63	SW	.....	.....	3	.....	1	.....	.....	0.028	0.70	.....	Andreas Rospini.
Hermannstadt	28.61	726.7	29.95	760 8	79.8	26.4	42	NW	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.76	730.5	30.07	763.8	67.6	19.8	61	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	29.01	736.9	29.97	761.1	67.3	19.6	61	SW	.....	.....	5	.....	4	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.91	759.7	30.02	762.4	82.6	28.1	43	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.61	752.1	30.06	763.4	75.2	24.0	40	NW	.....	.....	4	.....	3	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.95	760.8	30.06	763.4	81.3	27.4	37	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	P. Busin.
Vienna	29.41	747.1	30.10	764.6	73.9	23.3	54	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	I. R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.65	727.6	30.12	765.1	65.5	18.6	56	SSW	.....	.....	1	.....	3	.....	.....	0 028	0.7	.....	Prof. M. Passau.
Brussels	29.89	759.1	30.08	764.0	69.1	20.6	57	SW	.....	.....	1	.....	7	.....	W	0.047	1.20	.....	Royal Observatory
Furnes	30.09	764.2	30.11	764.8	68.5	20.3	63	W	.....	.....	3	.....	5	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	30.00	761.9	30.12	765.1	69.3	20.7	76	SSW	.....	.....	2	.....	6	.....	.....	0.004	0.1	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.81	757.2	29.90	759.4	59.1	15.1	.....	SE	9	4.0	.....	.....	6	.....	.....	0.020	0.51	Showery.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	30.03	762.7	65.9	18.8	.....	W	5	2.2	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	30.02	762.5	65 0	18.3	.....	W	17	7.6	.....	.....	1	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	29.83	757.7	30.02	762.5	68.2	20.1	.....	WNW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.10	2.5	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	85	29.4	.....	NE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds..	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	30.03	762.7	75.0	23.9	.....	NW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	H. Todd. [H.C.
Cardington	.....	.....	30.06	763.5	69.4	20.8	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	John McLaren.
Chatham, School M. E.	29.92	760.0	30.04	763.0	69.7	20.9	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.57	725.7	30.02	762.5	62.0	16.7	.....	SW	.....	.....	0	.....	6	.....	.....	.....	.....	D. clouds....	Alexander Watt.
Donaghadee	29.97	761.2	30.00	762.0	63	17.2	.....	NW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds....	J. Mac Gowan.
Dover	30.02	762.5	30.05	763.3	68	20.0	.....	WSW	.....	.....	3	.....	0	.....	.....	.....	.....	Clear.....	J. Costello.
Eccles, (near Manchester)	.....	.....	30.01	762.2	67.8	19.9	.....	W	3.2	1.4	.....	.....	8	.....	.....	.....	.....	D. clouds....	Thomas Mackereth.
Falmouth, Observatory	29.84	757.9	30.06	763.5	64.0	17.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.64	702.0	29.94	760.5	76.4	24.7	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.85	758.2	30.08	764.0	75	23.9	.....	Calm?	.....	.....	1?	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.95	760.7	67	19.4	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.95	760.7	30.00	762.0	80?4	26.9	.....	W	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.76	755.9	29.96	761.0	62.3	16.8	.....	WNW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds....	D. G. Maclean.
Great Yarmouth	30.02	762.5	30.02	762.5	67	19.4	.....	NNE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds....	G. T. Watson.
Greenwich, Royal Obs'y	29.88	758.9	30.05	763.3	73.6	23.1	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	The Staff, for G. B. Airy.
Guernsey	29.81	757.2	30.02	762.5	65	18.3	.....	ENE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	30.07	763.8	67	19.4	.....	NNE	.....	.....	2	.....	3k	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.99	761.7	30.04	763.0	66	18.9	.....	WNW	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.77	756.1	30.06	763.5	65.7	18.7	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	.....	J. Fisher.
Kew, Observatory	.....	.....	30.05	763.3	69.0	20.6	.....	SW	7	3.1	.....	.....	6	.....	.....	.....	.....	D. clouds....	The Staff.
Kingstown	30.01	762.2	30.04	763.0	66	18.9	.....	W	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.97	761.2	69.4	20.8	.....	W	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.84	757.9	29.91	759.7	86.4	30.2	.....	SE	.....	.....	1	.....	2ck	.....	.....	.....	.....	D. clouds....	H. J. Becket, A. H. C.
Nairn	29.79	756.7	29.88	758.9	67	19.4	.....	W	.....	.....	1	.....	0	.....	.....	.....	.....	Clear.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.08	764.0	86.5	30.3	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.85	758.2	30.03	762.7	74.2	23.4	.....	W	.....	.....	2	.....	3ks;k	.....	.....	W	0.040	1.02	Blue sky.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.51	749.5	30.02	762.5	69.1	20.6	.....	WNW	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	30.04	763.0	69	20.6	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Drizzling....	H.E. Bellamy.
Plymouth	29.98	761.5	30.05	763.3	65.8	18.8	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast....	John Merrifield.
Roche's Point	29.99	761 7	30.03	762.7	67	19.4	.....	SW	.....	.....	2	.....	2	.....	.....	.....	.....	Fine.....	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.88	758.9	58.5	14.7	.....	SW	18	8.0	.....	.....	1	.....	.....	.....	.....	D. clouds....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.83	757.7	85.0	29.4	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Hazy.....	Sergt. W. H. Lyne.
Sheffield	29.74	755.4	30.01	762.2	71.4	21.9	.....	NW	.....	.....	2	.....	5	.....	.....	0	0	D. clouds....	W. F. Cooper.
Silloth Rectory	29.94	760.5	29.97	761.2	71.2	21.8	68	SW	.....	.....	2	.....	2	.....	.....	0.035	0.89	D. clouds....	C. Edith Redford.
Stonyhurst, Observatory	29.63	752.6	30.04	763.0	66.0	18.9	.....	SW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.82	757.4	29.86	758.4	61	16.1	.....	W	.....	.....	4	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S.
Thurso	.....	.....	29.86	758.4	64	17.8	.....	WNW	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	John Trotter.
Truro, Royal Institution	.....	.....	30.06	763.5	70	21.1	.....	W	.....	.....	4	.....	6	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	30.02	762.5	67.6	19.8	.....	SE	14	6.3	.....	.....	5	.....	.....	.....	.....	D. clouds....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.42	747.3	57	13.9	76	NW	.....	.....	2	.....	9kn	.....	.....	0.02	0.5	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.08	764.0	30.28	769.0	69.0	20.6	84	ESE	18.5	8.3	.....	2	6	.....	.....	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.04	763.0	30.13	765.3	54.0	12.2	74	NW	10	4.5	.....	.....	10	.....	.....	0	0	Dull.....	R. L. J. Ellery.
Monach Lt-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
S. S. Batavia	.....	.....	.....	Capt. J. E. Monland.
Ship Camperdown	.....	.....	.....	Capt. A.T. Miller.
Brig Catherine, N. 48° 50', W. 50° 40'	4	NNW	Misty.....	Capt. Alex. Wilson.
Barque Celeste	.....	.....	.....	Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	A. S. Thomson.
S. S. Don	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	Capt. W. R. Cato.
S. S. Hibernia	.....	.....	.....	Capt. D. W. A. Quaile
Barque Margaret Smith	.....	.....	.....	Capt. A. T. Brown.
Barque Maroon	.....	.....	.....	Capt. C. C. Prehn. [R.
Ship Mikado	.....	.....	.....	Capt. J. Smith.
S. S. Naid	.....	.....	.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	Capt. E. M. Hughes.
Royal Alice	.....	.....	.....	Capt. H. Manning.
S. S. Seine	.....	.....	.....	
Barque Sorata	.....	.....	.....	
Schooner Traveller, N. 33° 10', W. 74° 10'	4	SE	Foggy.....	Capt. Alex. Simpson.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
S. S. Yorkshire	.....	.....	.....	Capt. H. Longley.
.....	.....	.....	.....	
.....	.....	.....	.....	
.....	.....	.....	.....	

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7			67.1	19.5	95	SE			3	1c	7ck			0	0		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.74	755.4	29.79	756.6	64.6	18.1	64	NW			4		5						
Faröe	29.87	758.6	29.89	759.1	64.8	18.2	71	W			4		5						
Godthaab, (Greenland)	29.71	754.7	29.76	755.8	44.8	7.1	86	Calm			0		10						
Stykkisholm, (Iceland)	29.83	757.7	29.87	758.8	51.4	10.8	70	E			4		0						
Thorshavn, (Faröe)	29.87	758.8	29.91	759.7	53.4	11.9	54	Calm			0		3						
Vestervig	29.66	753.4	29.83	757.7	64.0	17.8	65	NW			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.54	750.3	30.09	764.3	66.2	19	66	E			1		5	E	E	0	0	Cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.95	760.7	30.03	762.7	82.0	27.8	46	N			2		0			0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.51	749.5	30.05	763.2	72.3	22.4	41	SE			1	2c				0	0	Slightly cl'dy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.82	757.4	30.10	764.5	70.7	21.5	51	E			1		5	W	E	0	0	Cloudy	Frere Eugene Marie, Director.
Besançon	29.21	742.0	30.08	764.0	71.6	22	66	E			3		2		SW	Inap.	Inap.	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.42	747.3	29.96	760.9	73.4	23	74	NE			3	2c		W		0	0	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.70	754.3	29.94	760.5	65.5	18.6	72	ENE			2		10		ENE	0	0		The Staff.
Carcassonne, Normal School	29.54	750.3	29.93	760.3	80.6	27	29	E			4		2	E		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.56	750.7	30.10	764.6	74.7	23.7	88	E			2		3		E	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.78	756.5	30.10	764.4	71.6	22.0	79	SW			1		5	NE	NE	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.67	728.1	29.95	760.8	79.2	26.2	35	E			1					0	0		Alluard, Director.
Commercy, Normal School	29.26	743.1	30.12	765.0	66.2	19	63	E			1		28		E	0	0	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grèasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School																			Mouillot, Director.
Le Mans, Normal School	29.70	754.4	30.00	762.0	69.4	20.8	54	SE			1		5		SE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.16	740.7	30.04	763.1	73.4	23	59	SW			2		1		SW	0	0	Clear	Baudry, Director.
Lorient, Naval Observatory	29.88	759.0	29.98	761.6	68.0	20.0	61	ENE			3		10		E	0.118	3.0	Covered	T. Carré, Director.
Mâcon, Normal School					75.2	24	75	S			2		5		S	0	0	Cloudy	M. Galzin, Director.
Mirecourt, Normal School	29.60	736.6	30.03	762.7	67.5	19.7	60	NNW			1		2cs		W	0	0	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	30.00	762.0	30.19	766.9	90.7	32.6	31	NE			4		0			0	0	Clear	Boyer, Director.
Privas, Normal School	29.02	737.1	30.04	763.1	77.0	25	47	SE			1		1	SE	SE	0	0	Clear	M. Cantier.
Puy de Dome (Summit)	25.19	639.8			55.4	13.0	68	S			2					0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.87	758.8	29.91	759.6	76.3	24.6	55	NE			4		10		NE	0.20	5.	Covered	M. Giguel, Director.
Rouen, Normal School	29.98	761.6	30.07	763.7	71.4	21.9	50	W			1		5		W	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)			29.99	761.8	66.6	19.2	64	ESE			3		8		ESE	0	0	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	28.96	735.6	30.00	761.9	75.2	24	75	SSE			3		0			0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.85	758.1	29.87	758.8	81.0	27.2										7.24	184.		L'Abbé Marchés.
Lyons			30.27	768.9	82.0	27.8	29						0			0	0		L. Jays.
Marseilles, Observatory			29.99	761.7	85.6	29.8	41	S			1–2		0			0	0		The Staff.
Mont-Louis	24.97	634.2	30.28	769.2	75.2	24.0	27	WSW	28.0	12.50			0			0	0		M. Cave.
Nice			30.05	763.2	78.1	25.6	82	E			1		0			0	0	Clear	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.79	756.6	30.07	763.6	73.9	23.3	48	ENE			3		5		ENE	0	0		Marié Davy, Director
Perpignan			29.98	761.4	77.0	25.0	59	SE	11.2	5.00			1		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.63	574.9			61.5	16.4		SW			6		3			0.130	3.3	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.91	759.6	30.07	763.8	72.3	22.4	60	ENE			1		7		E	0	0	Cloudy	E. Renou.
Toulouse, Observatory	29.20	741.6	29.92	759.9	78.8	26.0	43	SSE			6		1			0.154	3.90		The Staff.
Tours	29.59 ?	751.6 ?	29.79 ?	756.6 ?	64.4	18.0	90	SW			3		10		W	0	0		C. Marquet.
Versailles			30.08	764.0	74.1	23.4	35	ESE			1		8			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.82	757.3	29.84	758.0	77.2	25.1	98	E	3.8	1.7			0			0	0	Clear	Marc Dechevrens, S.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.21	742.0	30.04	763.1	70.9	21.6	62	SW	.....	.....	1	.....	1	W	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.85	758.1	30.01	762.3	72.7	22.6	47	S	.....	.....	4	.....	6	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.57	751.1	30.10	764.6	68.7	20.4	40	WNW	.....	.....	4	.....	3	.....	.....	Blank	Blank	.....	Royal University Obs'y
Carlsruhe	29.66	753.4	30.08	764.0	71.6	22.0	50	NE	.....	.....	1	.....	1	.....	.....	0	0	Light clouds	Albert Senz.
Cassel	29.51	749.5	30.12	765.0	72.3	22.4	55	S	.....	.....	3	.....	2	SW	.....	0.130	3.45	.....	Dr. H. Möhl.
Crefeld	29.92	760.0	30.08	764.1	70.7	21.5	54	NW	.....	.....	2	.....	6k	.....	.....	0	0	.....	Director Lose.
Emden	30.01	762.2	30.05	763.2	69.6	20.9	68	W	.....	.....	3	.....	2	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.76	755.9	30.11	764.8	72.1	22.3	.....	WSW	.....	.....	2	.....	2	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.67	728.1	30.05	763.3	71.2	21.8	55	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	M. Wilhelm.
Hamburg	29.90	759.5	29.97	761.3	63.0	17.2	92	W	.....	.....	4	.....	8kn	.....	.....	0.146	3.7	Showery	Captain F. Hegemann.
Kiel	29.89	759.3	29.91	759.7	66.2	19.0	68	W	.....	.....	6	.....	4	.....	.....	0.351	8.93	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.71	754.7	29.79	756.7	64.0	17.8	70	W	.....	.....	8	.....	4	.....	.....	2.425	61.6	.....	Prof. E. Luther.
Köslin	.....	.....	29.85	758.3	62.4	16.9	.....	W	.....	.....	6	.....	4	.....	.....	0.171	1.8	.....	H. Müller.
Leipsic, Observatory	29.67	753.5	30.08	763.9	72.1	22.3	40	W	.....	.....	5	.....	3	W	.....	0.008	0.2	.....	Prof. Bruhns.
Memel, Naval School	29.65	753.2	29.70	754.4	64.2	17.9	68	W	.....	.....	7	.....	8ks	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.84	757.9	29.85	758.3	68.0	20.0	62	W	.....	.....	4	.....	8	.....	.....	0.283	7.2	.....	A. Lothes.
Posen	29.74	755.4	30.02	762.5	68.7	20.4	53	W	.....	.....	6	.....	3	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.58	751.3	30.11	764.8	71.1	21.7	50	NE	.....	.....	1	.....	2	.....	.....	0.035	0.88	.....	Astronomical Observatory.
Stuttgart	29.16	740.7	30.07	763.8	72.1	22.3	40	E	.....	.....	1	.....	2	W	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.58	751.4	30.11	764.7	70.5	21.4	40	W	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.64	727.4	30.10	764.6	68.0	20.0	73	WSW	0.9	0.4	.....	.....	1ck	.....	.....	0	0	.....	Dr. Von Bebber.
Wustrow, Naval School	29.88	758.9	29.92	759.9	66.2	19.0	80	WSW	.....	.....	5	.....	4	.....	.....	0.110	2.8	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.43	747.5	29.80	756.8	94.6	34.8	.....	NE	.....	.....	5.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Kurrachee	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Deesa	29.16	740.7	29.64	752.7	81.5	27.5	90	W	.....	.....	.....	.....	9	.....	W	0.17	4.3	D. clouds	.....
Bombay	29.70	754.4	29.74	755.3	81.7	27.6	88	WSW	19	8.5	.....	.....	10	.....	WSW	0.04	1.0	Overcast	.....
Poona	27.73	704.4	29.74	755.4	75.4	24.1	84	W	.....	.....	.....	.....	10	.....	W	0	0	D. clouds	.....
Lahore	28.79	731.2	29.52	749.8	80.5	26.9	76	E	4.2	1.9	.....	.....	6	.....	E	0	0	D. clouds	.....
Belgaum	27.29	693.1	29.84	757.9	72.7	22.6	94	W	10	4.5	.....	.....	10	.....	W	0.02	0.5	Overcast	.....
Bangalore	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roorkee	28.68	728.5	29.58	751.2	78.8	26.0	95	Calm	4.3	1.9	.....	.....	10	.....	.....	0.89	22.6	Gloomy	.....
Agra	29.00	736.5	29.55	750.5	85.7	29.8	80	E	.....	.....	.....	.....	8	.....	W	0	0	.....	.....
Trichinopoly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nagpur	28.59	726.1	29.63	752.6	77.6	25.3	91	Calm	5.8	2.6	.....	.....	10	.....	E	2.54	64.5	Drizzling	.....
Madras	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allahabad	29.19	741.5	29.70	749.3	80.1	26.7	91	NNW	1.1	0.5	.....	.....	10	.....	N	0.40	10.2	Overcast	.....
Patna	29.36	745.6	29.54	750.2	81.1	27.3	90	E	5.3	2.4	.....	.....	10	E	E	1.31	33.3	Drizzling	.....
Hazaribagh	27.58	700.4	29.58	751.2	76.8	24.9	88	ESE	9.4	4.2	.....	.....	10	.....	E	1.46	37.1	Raining	.....
Cuttack	29.52	749.7	29.60	751.7	84.0	28.9	79	SSW	1.9	0.8	.....	.....	5	.....	.....	0.02	0.5	D. clouds	.....
Calcutta (Alipore)	29.62	752.3	29.64	752.9	81.0	27.2	91	S	4.0	1.8	.....	.....	8	S	.....	0	0	D. clouds	.....
Goalpara	29.30	744.2	29.69	754.0	80.2	26.8	88	Calm	5.7	2.6	.....	.....	5	.....	.....	1.62	41.1	D. clouds	.....
Chittagong	29.66	753.3	29.75	755.6	83.1	28.4	81	E	6.7	3.0	.....	.....	10	.....	.....	1.04	26.4	Overcast	.....
Sibsagar	29.37	745.9	29.70	754.3	85.3	29.6	79	WSW	2.4	1.1	.....	.....	10	W	W	0	0	D. clouds	.....
Rangoon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jubbulpore	28.26	717.8	29.61	752.2	79.3	26.3	87	NW	4.9	2.2	.....	.....	10	.....	.....	0.73	18.5	Overcast	.....
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Bangalore, 2,989 ft., or 911.0 m.; Nagpur, 1,025 ft., or 312.4 m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.69	754.1	30.08	764.1	78.4	25.8	42	NE	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.97	761.2	30.08	763.9	80.1	26.7	46	N	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.88	758.9	30.07	763.6	81.0	27.2	39	NE	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.75	730.3	30.00	762.0	84.2	29.0	47	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.55	750.5	30.04	763.1	84.4	29.1	48	ESE	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.18	741.1	30.04	763.1	78.8	26.0	66	NNW	4.9	2.2	.....	.....	5	SW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.20	716.3	30.02	762.5	77.7	25.4	50	W	.....	.....	4	.....	3	NE	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.82	757.4	30.03	762.8	78.4	25.8	72	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.85	758.1	30.01	762.3	82.0	27.8	56	N	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.74	755.4	30.05	763.2	83.1	28.4	45	E	.....	.....	6	.....	1	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.74	755.5	29.99	761.7	89.6	32.0	38	NW	.....	.....	2	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.88	758.9	29.96	761.0	80.8	27.1	46	NNW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	30.00	762.1	30.05	763.3	78.8	26.0	66	NE	.....	.....	.....	.....	0	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.55	725.1	30.03	762.7	75.9	24.4	57	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.76	755.8	29.93	760.1	93.0	33.9	33	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.78	756.4	29.97	761.2	86.5	30 3	57	SSE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.65	753.1	29.89	759.2	86.0	30.0	44	NNE	18.1	8.1	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.79	756.6	29.97	761.3	83.8	28.8	71	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.06	738.2	29.90	759.4	95.9	35.0	52	SW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.73	755.2	29.98	761.4	80.8	27 1	73	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.85	758.2	29 93	760.1	81.9	27.7	45	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.42	747.2	29.97	761.3	87.4	30.8	56	SW	1.3	0.6	.....	.....	2	W	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.69	754.1	29.88	758.9	79.8	26.6	87	ESE	5.5	2.5	.....	.....	6s;ks	.....	.....	0	0	Cloudy.	I. Arai, Director.
Tokei (Yeddo) Observatory	29.84	757.9	29.91	759.7	75.0	23.9	85	SSW	4.4	2.0	.....	1ck	2ks	NW	.....	0	0	Fair	
Tokei (Yeddo) University	29.78	756.4	29.88	758.9	75.6	24.2	90	S	5.5	2.5	.....	4ck	1k	.....	.....	0	0	Fair.....	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	65.0	18.3	95	Calm	0	0	.....	0	10n	.....	S	1.58	40.0	Cloudy.....	L. Castillo, A. E.
Guadalajara	24.99	634.7	29.91	759.9	59.0	15.0	90	NW	1.8	0.8	.....	0	9ks	.....	SE	0.28	7.2	Cloudy.....	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.26	6.7	.....	Prof. V. Fernandez
Leon	24.28	616 8	29.75	755.7	66.6	19.2	82	W	0.9	0.4	.....	0	10n	.....	.....	0.04	1.0	Covered.....	Prof. M. Leal.
Mexico	22.93	582.4	29.84	758.0	58.3	14.6	90	Calm	0	0	.....	0	10n	.....	.....	0.71	18.0	Rainy.....	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	64.4	18.0	76	N	1.8	0.8	.....	0	10k	.....	E	Inap.	Inap.	Covered	M. V. de Leon, M. E
Puebla	23.19	589.0	29.75	755 6	58.3	14.6	93	S	7.6	3.4	.....	0	10kn	.....	S	0.18	4.7	Rainy.....	Prof. B. Gonzalez.
Tlacotalpam	29.61	752.0	29.62	752.3	77.0	25.0	84	S	21.6	8.1	.....	0	10ks	.....	S	0	0	Covered	Prof. F. R. Bayly.
San Luis Potosí	24.10	611 4	29.97	761.2	62.0	16.7	34	N	0.9	0.4	.....	0	10	.....	N	0.06	1.6	Rainy	G. Barroeta, M. D.
Vera-Cruz	29.66	753.4	29.68	754.1	77.0	25.0	87	Calm	0	0	.....	0	9sk	.....	.....	0.39	10.0	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	55.4	13.0	90	SW	1.9	0.8	.....	6	2	S	S	1.14	29.0	Rainy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.19	589.0	29.93	760 4	57.0	14.2	83	S	8.9	4.0	.....	0	10	.....	S	0.32	8.0	Rainy.....	Prof. P. Spina, [M.M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.25	717.6	29.87	758.7	78.8	26.0	80	S	0.9	0.4	.....	0	10	.....	.....	1.14	29.0	Covered.....	R. Banda, C. E.
San Juan E. Michapam	29.54	750.2	29.66	753.5	80.6	26.9	.....	SE	32.2	14.0	.....	8ck	0	SE	.....	0	0	Cloudy.....	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.2 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 592.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.10	764.4	30.10	764.4	67.6	19.8	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	.....	.....	.....	.....	67.1	19.5	.....	W	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	30.02	762.5	30.02	762.5	65.8	18.8	.....	WSW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.05	763.3	30.05	763.3	66 9	19.4	83	W	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.02	762.5	30.07	763.7	69.8	21.0	72	WSW	.....	.....	4	.....	8	.....	.....	0.008	0.2	Very cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.78	756.4	29.84	757.8	57.2	14.0	57	NNW	10.7	4.8	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.63	752.5	29.67	753.5	54.0	12.2	72	W	9	4	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.49	749.0	29.63	752.6	65.5	18.6	82	WNW	2	1	.....	.....	6	.....	.....	0	0	.....	
Tromsö	29.57	751.1	29.61	752.2	50.0	10.0	67	NE	9	4	.....	.....	8	.....	.....	0.024	0.6	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.03?	762.8?	30.22?	767.6?	72.0	22.2	86	WNW	15.4	6.9	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.1	30.02	762.4	76.1	24.5	38	W	10.5	4.7	.....	.....	3	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.97	761.1	30.05	763.3	76.3	24.6	71	SE	6.3	2.8	.....	.....	1	.....	.....	0.047	1.2	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.05	763.2	72.0	22.2	56	SW	21.0	9.4	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.81	757.1	29.88	758.9	72.3	22.4	91	SW	24.2	10.8	.....	.....	10	.....	.....	0.283	7.2	Raining.	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—		
Bartholomew Dias				R. A. T. Pinha, Com'd.
D. Fernando, N. 37° 15', W. 25° 39'	29.86	758.5	76.6	24.8	.....	SW	.....	.....	6	.....	10	.....	SW	6	SW	Overcast.	A. M. de Sande, Com'd.
India																	A. D. Pedroso, Com'd.
Mindello																	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47', E. 11° 47'	30.07	763.8	68.0	20.0	.....	WSW	.....	.....	2	.....	9	.....	WSW	1	.....	D. clouds.	A. J. de Mattos, Com'd't
Rio Douro																	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53', W. 23° 34'	30.03	762.7	87.8	31.0	.....	SW	.....	.....	1	.....	7	.....	.....	2	SW	D. clouds.	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	30.02	762.6	75.2	24.0	.....	WNW	.....	.....	2	.....	9	.....	E	1	.....	D. clouds.	F. Texeira da Silva, Com'd't.
Tejo																	E. Ivos do Rio.

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the cooperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.54	750.4	29.95	760.8	67.5	19.7	54	WNW	18	8	.....	.....	5ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.29	743.9	29.69	754.2	63.9	17.7	75	W	27	12	.....	.....	7	.....	.....	.....	.....	Heavy clouds.	Astronomical Obs.
Dorpat	29.19	741.4	29.43	747.4	62.2	16.8	96	W	2	1	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.40	746.8	29.42	747.2	67.3	19.6	64	ESE	16	7	.....	.....	9n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio																			Ch. Forsten.
Kieff	29.20	741.6	29.81	757.1	68.7	20.4	50	NW	16	7	.....	.....	7k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.83	757.7	29.90	759.5	84.6	29.2	47	NNW	13	6	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.80	757.0	29.82	757.5	90.1	32.3	45	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.00	736.7	29.54	750.2	61.5	16.4	88	S	7	3	.....	.....	9ks	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.47	748.4	29.66	753.3	85.1	29.5	39	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.49	749.1	29.51	749.6	53.8	12.1	76	W	9	4	.....	.....	4ks	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.39	721.2	29.71	754.7	90.1	32.3	33	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.78	756.4	29.70	754.3	89.4	31.9	39	SW	18	8	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.12	739.7	29.38	746.3	62.4	16.9	79	NNE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.41	721.5	29.31	744.5	62.6	17.0	86	Calm	0	0	.....	.....	10	.....	.....	.....	.....	Raining	Meteorological Obs.
Nukuss	29.51	749.5	29.72	755.0	93.6	34.2	37	NNW	2	1	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.24	717.3	29.86	758.4	79.5	26.4	51	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.07	738.4	29.56	750.7	80.1	26.7	38	NW	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.48	748.9	29.76	756.0	67.3	19.6	61	NE	4	2	.....	.....	2	.....	.....	.....	.....	.....	Marks.
Irkutsk																			Usolzef.
Peking, (China)	29.69	754.0	29.83	757.6	66.7	19.3	95	NNW	4	2	.....	.....	3cs	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 403 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.7	84.9	29.4	58	SE	1.3	0.6	.....	.....	4c	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.72	754.8	29.77	756.2	86.2	30.1	56	SE	2.3	1.01	.....	1	7	W	.....	0.020	0.5	Raining	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.06	687.3	.....	.....	67.1	19.5	64	SW	11.2	5.01	.....	.....	10	.....	.....	0	0	Covered	Domingo Martin y Perez
Madrid, Royal Observatory	27.76	705.2	29.87	758.6	84.4	29.1	41	SW	17.9	8.00	.....	0	8	.....	.....	0	0	Almost cov'd	The Staff.
Murcia, Met. Obs'y	29.82	757.3	29.96	760.9	90.1	32.3	51	NE	3.1	1.39	.....	1	3	ENE	.....	0	0	Clouds	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.96	735.5	29.84	757.8	64.6	18.1	89	SW	23.7	10.62	.....	.....	10	.....	.....	0.732	18.6	Raining	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.99	761.8	30.06	763.5	79.7	26.5	74	Calm	0	0	.....	9cs	3k;ks	.....	.....	0.079	2.0	Cloudy	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.2	30.06	763.6	76.6	24.8	61	SSW	18.3	8.2	.....	0	3	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	759.9	30.01	762.2	80.6	27.0	92	SE	0	0	.....	2cs	3kn	SE	SE	0.108	2.75	D. clouds	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.54	750 2	29.58	751.2	61.2	16.2	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.49	749.1	29.54	750.4	65.5	18.6	39	E	.....	.....	2	.....	4	.....	.....	0	0	.....	
Hernosand	29.47	748.5	29.52	749.8	61.9	16.6	81	ENE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Stockholm	29.33	745.0	29.51	749 5	58.3	14.6	91	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Wisby	29.53	750.1	29.59	751.6	64.4	18.0	71	W	.....	.....	7	.....	3	.....	.....	0.276	7.0	.....	
Sub-Series.																			
Upsala	29.43	747.4	29.50	749.3	57.6	14.2	94	N	7.4	3.3	.....	.....	10	.....	N	0.386	9.80	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.68	728.4	30.07	763.6	68.2	20.1	62	NNE	.....	.....	2	.....	0	.....	.....	0	0	Clear	The Observatory.
Zurich	28.49	728.6	30.07	763.7	72.0	22.2	58	E	.....	.....	1	.....	0	.....	.....	0.020	0.5	.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—At Geneva the corresponding departures from the normal values are: Barometer, +0.6 mm.; Thermometer, —1.5 cent.; Relative Humidity, +7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.90	759.5	76.0	24 8	67	NNE	22	10.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.01	762 3	82.8	28.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.56	750.8	29.67	753.6	93.6	34.2	58	SW	.....	.....	2	.....	1s	.....	SW	0	0	D. cl'ds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Brockville, Ontario	29.63	752.6	29.93	760 2	65	18.3	.....	W	1	0.4	.....	.....	8s	.....	W	0	0	Cloudy	Hon. J. Ferguson.
*Chatham, N B	29.83	757.7	29.88	758.9	67	19.4	96	Calm	0	0	.....	2k	8s	SW	SW	0.53	13.5	Cloudy	W. R. Bigg.
Charlottetown, P. E. Island	29.86	758.4	29.90	759.4	69	20.6	89	SW	13	5.8	.....	.....	10ks	.....	SW	0.220	5.59	Cloudy	G. A. Blair.
Cornwall, Ontario	29.68	753.9	29.86	758.4	64.0	17.8	81	W	.....	.....	2	.....	9s	.....	S	1.328	33.73	Cloudy	H. J. Cundall, C. E
Dalhousie, N. B	29.70	754 4	29.86	758.4	64	17.8	100	E	.....	.....	2	.....	.....	.....	.....	0	0	Gloomy	James Smith, M. A.
Esquimault, B. C	29.85	758.2	29.90	759.4	53.2	11.8	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	H. A. Johnson.
*Father Point, Quebec	29.82	757.4	29.84	757.9	57	13.9	94	SW	4	1.8	.....	.....	Fog	.....	Calm	0.07	1.8	Foggy	W. H. Bevis.
Fredericton, N. B	29.84	757.9	29.90	759.4	72.1	22.3	85	SE	1	0.4	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	J. McWilliams.
*Fort Garry Manitoba	29.04	737.6	29.83	757.7	63	17.2	91	S	4	1.8	.....	.....	10n	.....	.....	0	0	Cloudy	Prof. Harrison.
Granton, Ontario	28.90	734.0	29.97	761.2	63	17.2	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Stewart.
*Halifax, N. S	29.80	756.9	29.92	760.0	66	18.9	94	SW	3	1.3	.....	.....	10n	.....	.....	0.112	2.84	Cloudy	James Grant.
Hamilton, Ontario	29.66	753.4	30.02	762.5	63.0	17.2	84	NW	.....	.....	1	6ck	0	NW	.....	Inap.	Inap.	Cloudy	F. Allison, M. A.
Heart's Content, N. F	29.99	761.7	30.01	762.2	61	16.1	94	SW	.....	.....	1	.....	10	.....	.....	0.07	1.8	Rain & fog	Geo. Dickson, M. A.
*Kingston, Ontario	29.63	752.6	29.95	760.7	65	18.3	94	W	6	2.7	.....	8ck	0	W	.....	0	0	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.87	758.7	29.91	759.7	71.0	21.7	.....	SW	7	3.1	.....	9ks?	0	SW	.....	0	0	Cloudy	E. Weedon.
*Montreal, Quebec	29.67	753.6	29.86	758.4	65	18.3	88	NW	6	2.7	.....	2k	8ks	.....	Calm	0.77	19.6	Cloudy	C. H. Rigby.
*Parry Sound, Ontario	29.30	744.2	29.97	761.2	65	18.3	89	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E
Peterboro, Ontario	29.24	742.7	29.97	761.2	62.7	17.1	88	W	.....	.....	3	6k	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Port Dover, Ontario	29.32	744.7	29.99	761.7	65	18.3	89	Calm	0	0	.....	8k	0	W	.....	0	0	Fair	J. F. Jeffers, B. A.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. Morgan.
Port Stanley, Ontario	29.35	745.5	29.98	761 5	67	19.4	86	N	2	0.9	.....	0	0	.....	.....	.....	.....	.....	Peter Grant.
*Quebec, Quebec	29.56	750.8	29.87	758.7	64	17.8	89	SW	.....	.....	1	.....	10n	.....	.....	0	0	Clear	M. Payne.
*Rockliffe, Ontario	29.52	749.8	29.97	761.2	58	14.4	94	Calm	0	0	.....	.....	10s	.....	SW	0.08	2.0	Cloudy	Capt. Ashe, R. N
St. Andrews, N. B	29.85	758.2	29.90	759.4	61	16.1	97	Calm	0	0	.....	.....	10s	.....	NW	0	0	Cloudy	W. H. McIntyre.
St. John, N. B	29.76	755.9	29.92	760.0	61	16.1	100	SE	5	2.2	.....	.....	Fog	.....	.....	0.22	5.6	Foggy	Dr. Gove.
*Saugeen, Ontario	29.29	744.0	29.97	761.2	67	19.4	80	E	14	6.3	.....	.....	Fog	.....	.....	0.01	0.3	Foggy	G. Murdock, C. E.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2cs	0	.....	.....	0	0	Clear	K. Stewart.
Stratford, Ontario	28.70	729.0	29.94	760.5	61.9	16.6	91	Calm	0	0	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
*Sydney, C. B	29.90	759.4	29.92	760.0	71	21.7	87	SW	10	4.5	.....	2cs	3s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Toronto, Ontario	29.62	752.3	30.00	762.0	65	18.3	76	W	2	0.9	.....	0	10s	.....	W	0	0	Cloudy	T. C. Hill.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2ck	.....	W	0	0	Clear	Magnetic Observatory.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	62.0	16.7	94	S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10n	.....	.....	.....	.....	Raining	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.70	754.4	29.92	760.0	67	19.4	84	W	1	0.4	.....	1k	0	W	.....	0.84	21.3	Clear	
Alpena, Michigan	29.36	745.7	29.99	761.7	59	15.0	87	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.93	760.2	29.95	760.7	71	21.7	100	SW	3	1.3	.....	.....	10s;fg	.....	SW	0.08	2.0	Cloudy	
Augusta, Georgia	29.91	759.7	30.09	764.3	82	27.8	75	N	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Baltimore, Maryland	29.92	760.0	29.97	761.2	74	23.3	76	NW	7	3.1	.....	5ck;k	0	SW	.....	0	0	Fair	
Barnegat, New Jersey	29.92	760.0	29.94	760.5	79	26.1	81	W	8	3.6	.....	2k	2ks	W	W	0.24	6.1	Fair	
Bismarck, Dakota	28.18	715.8	30.04	763.0	64	17.8	73	NW	3	1.3	.....	.....	10s	.....	NW	0	0	Cloudy	
Boerne, Texas	28.47	723.1	.....	.....	75	23.9	95	SE	6	2.7	.....	8ĸ	0	E	.....	0	0	Cloudy	
Boise City, Idaho	27.11	686.6	30.07	763.8	53	11.7	86	SE	1	0.4	.....	5k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.75	755.6	29.90	759.4	71	21.7	95	S	6	2.7	.....	4k	4s;fg	W	SW;S	0.22	5.6	Fair	
Brackettville, Texas	28.85	732.8	29.83	757.7	78	25.6	91	E	4	1.8	.....	.....	8s	.....	E	0	0	Cloudy	
Breckenridge, Minnesota	28.89	733.8	29.84	757.9	64	17.8	94	SE	4	1.8	.....	.....	10s	.....	S	0.04	1.0	Cloudy	
Brownsville, Texas	29.90	759.4	29.86	758.4	70	21.1	90	E	8	3.6	.....	.....	10s	.....	Calm	0.76	19.3	Cloudy	
Buffalo, New York	29.30	744.2	29.97	761.2	69	20.6	56	NE	1	0.4	.....	2k	2ks	SW	SW	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	79	Calm	.....	.....	0	5k	0	S	.....	0	0	Fair	
Burlington, Vermont	29.66	753.4	29.91	759.7	65	18.3	83	Calm	0	0	.....	1c	8s	Calm	W	0.16	4.1	Cloudy	
Cairo, Illinois	29.72	754.9	30.09	764.3	82	27.8	79	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	83	NE	.....	.....	1	.....	10s	.....	SW	0	0	Cloudy	
Camp Grant, Arizona	25.17	639.3	29.97	761.2	68	20.0	79	N	.....	.....	1	0	5s	.....	Calm	0	0	Fair	
Camp Verde, Arizona	26.68	677.7	30.17	766.3	70	21.1	90	S	.....	.....	1	5k	0	Calm	.....	0.17	4.3	Fair	
Campo, California	27.31	693.7	29.88	758.9	44	6.7	67	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.98	761.5	29.99	761.7	80	26.7	82	W	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cape Henry, Virginia	29.97	761.2	29.99	761.7	77	25.0	91	SW	3	1.3	.....	0	0	.....	.....	0.10	2.5	Clear	
Cape Lookout, N. Carolina	29.99	761.7	30.01	762.2	81	27.2	78	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Cape May, New Jersey	29.95	760.7	29.98	761.5	73	22.8	95	SW	4	1.8	.....	.....	Fog	.....	SW	0.16	4.1	Foggy	
Castroville, Texas	29.19	741.4	29.86	758.4	78	25.6	91	E	8	3.6	.....	.....	10n	.....	E	Inap.	Inap.	Light rain	
Charleston, South Carolina	30.04	763.0	30.10	764.5	79	26.1	91	W	6	2.7	.....	0	0	.....	.....	0.09	2.3	Clear	
Cheyenne, Wyoming	24.17	613.9	30.11	764.8	56	13.3	87	N	16	7.2	.....	.....	10s	.....	N	0	0	Threatening	
Chicago, Illinois	29.23	742.4	29.89	759.2	70	21.1	95	SE	4	1.8	.....	.....	10n	.....	NW	1.32	33.5	Light rain	
Cincinnati, Ohio	29.40	746.7	30.02	762.5	71	21.7	90	SE	5	2.2	.....	.....	10ks	.....	NW	1.13	28.7	Threatening	
Cleveland, Ohio	29.29	744.0	29.99	761.7	65	18.3	68	S	6	2.7	.....	.....	10ks	.....	W	0	0	Cloudy	
Coleman City, Texas	28.24	717.3	29.83	757.7	77	25.0	82	E	4	1.8	.....	0	2ks	.....	E	0	0	Fair	
Columbus, Ohio	29.18	741.2	29.98	761.5	72	22.2	80	S	4	1.8	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Conchо, Texas	28.10	713.7	29.70	754.4	73	22.8	81	E	6	2.7	.....	0	5s	.....	E	0	0	Fair	
Corsicana, Texas	29.59	751.6	30.04	763.0	75	23.9	95	SE	3	1.3	.....	2ck	8s	Calm	SE	0	0	Cloudy	
Davenport, Iowa	29.28	743.7	29.88	758.9	74	23.3	90	SW	9	4.0	.....	1cs	Haze	SW	Calm	0.29	7.4	Fair	
Denison, Texas	29.28	743.7	30.05	763.3	76	24.4	86	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.89	632.2	30.11	764.8	63	17.2	67	SW	2	0.9	.....	0	2s	.....	Calm	0	0	Clear	
Des Moines, Iowa	29.04	737.6	29.86	758.4	77	25.0	77	SW	.....	.....	1	0	0	.....	.....	0.02	0.5	Clear	
Detroit, Michigan	29.32	744.7	29.97	761.2	63	17.2	78	W	1	0.4	.....	.....	10s	.....	W	0	0	Cloudy	
Dodge City, Kansas	27.42	696.5	29.60	751.8	72	22.2	76	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.18	741.2	29.84	757.9	72	22.2	80	SE	2	0.9	.....	0	Fog	.....	Calm	0.03	0.8	Foggy	
Duluth, Minnesota	29.26	743.2	29.92	760.0	61	16.1	88	NE	3	1.3	.....	.....	10s	.....	NE	0	0	Cloudy	
Eagle Pass, Texas	29.16	740.7	29.86	758.4	79	26.1	82	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Eastport, Maine	29.84	757.9	29.90	759.4	63	17.2	83	S	2	0.9	.....	.....	Fog	.....	Calm	0.07	1.8	Foggy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	49	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.29	744.0	29.98	761.5	67	19.4	74	S	5	2.2	.....	8ck	0	W	.....	0	0	Cloudy	
Escanaba, Michigan	29.35	745.5	29.99	761.7	59	15.0	88	SW	3	1.3	.....	.....	Fog	.....	.....	0	0	Dense fog	
Florence, Arizona	.....	.....	.....	.....	80	26.7	78	Calm	.....	.....	0	8cs	0	Calm	.....	0	0	Fair	
Fort Craig, New Mexico	25.54	648.7	29.61	752.1	65	18.3	89	NW	1	0.4	.....	5cs	0	NE	.....	0.24	6.1	Fair	
Fort Davis, Texas	25.24	641.1	30.30	767.1	67	19.4	48	NW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fort Gibson, Indian Ter	29.52	749.8	30.03	762.7	79	26.1	82	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.78	731.0	30.00	762.0	74	23.3	81	Calm	0	0	.....	5ck	2s	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.81	706.4	29.67	753.6	70	21.1	70	E	3	1.3	.....	5k	2s	NE	E	0	0	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.86	733.0	29.91	759.7	77	25.0	77	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.29	718.6	29.77	756.1	79	26.1	78	E	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.90	759.4	29.94	760.5	82	27.8	83	E	12	5.4	.....	2c	8ks	Calm	E	0.07	1.8	Cloudy	
Graham, Texas	28.96	735.6	29.97	761.2	76	24.4	91	SE	4	1.8	.....	8ck	2s	S	S	0.63	16.0	Cloudy	
Grand Haven, Michigan	29.34	745.2	29.96	761.0	65	18.3	68	E	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Indianapolis, Indiana	29.25	742.9	29.99	761.7	74	23.3	81	SE	4	1.8	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Indianola, Texas	29.91	759.7	29.94	760.5	83	28.3	83	E	19	8.5	.....	2cs	8ks	SW	E	0.51	13.0	Cloudy	
Jacksboro, Texas	28.92	734.6	30.00	762.0	76	24.4	82	SE	2	0.9	.....	5ck	0	S	.....	0	0	Fair	
Jacksonville, Florida	30.09	764.3	30.12	765.0	84	28.9	79	SE	3	1.3	.....	5c	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.31	744.5	29.89	759.2	79	26.1	74	SW	9	4.0	.....	0	0	.....	.....	0.21	5.3	Clear	
Key West, Florida	30.05	763.3	30.08	764.0	84	28.9	75	Calm	0	0	.....	.....	10s;u	.....	Calm	0.03	0.8	Cloudy	
Kittyhawk, North Carolina	29.96	761.0	29.99	761.7	79	26.1	82	SE	5	2.2	.....	2k	0	W	.....	0	0	Fair	
Knoxville, Tennessee	29.14	740.1	30.11	764.8	73	22.8	90	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Crosse, Wisconsin	29.14	740.1	29.84	757.9	70	21.1	90	NE	1	0.4	.....	.....	10s	.....	Calm	1.71	43.4	Cloudy	
La Mesilla, New Mexico	26.05	661.7	30.20	767.1	66	18.9	84	Calm	0	0	.....	0	0	.....	.....	0.09	2.3	Clear	
Laredo, Texas	29.48	748.8	29.81	757.2	77	25.0	91	NE	4	1.8	.....	10k	0	E	.....	0.29	7.4	Cloudy	
Lead City, Dakota	24.93	633.2	30.20	767.1	57	13.9	87	N	2	0.9	.....	.....	10n	.....	Calm	0.99	25.1	Light rain	
Leavenworth, Kansas	29.12	739.6	29.92	760.0	75	23.9	81	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.48	748.8	29.81	757.2	65	18.3	75	N	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.48	748.8	30.01	762.2	74	23.3	81	S	6	2.7	.....	5c	Sm'e	NW	Calm	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.32	744.7	29.97	761.2	79	26.1	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.26	743.2	29.93	760.2	64	17.8	78	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Mason, Texas	28.39	721.1	30.07	763.8	77	25.0	95	SE	3	1.3	.....	.....	10s	.....	SE	0.02	0.5	Cloudy	
Memphis, Tennessee	29.80	756.9	30.10	764.5	81	27.2	78	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.20	741.7	29.89	759.2	69	20.6	85	E	16	7.2	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	
Mobile, Alabama	30.08	764.0	30.12	765.0	80.5	26.9	87	S	2	0.9	.....	8c	0	Calm	.....	Inap.	Inap.	Fair	
Montgomery, Alabama	29.89	759.2	30.12	765.0	77	25.0	77	Calm	0	0	.....	Haze	Sm'e	.....	.....	0	0	Hazy	
Morgantown, West Virginia	28.99	736.3	30.00	762.0	71	21.7	80	Calm	0	0	.....	5c;k	1ks	NW; W	Calm	Inap.	Inap.	Fair	
Mt. Washington, N. H.	23.84	605.5	30.20	767.1	45	7.2	92	NW	15	6.7	.....	5k	2ks	SW	NW	0.50	12.7	Fair	
Nashville, Tennessee	29.58	751.3	30.09	764.3	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.81	757.2	29.92	760.0	79	26.1	78	W	6	2.7	.....	5k	Haze	W	Calm	0.06	1.5	Fair	
New London, Connecticut	29.88	758.9	29.93	760.2	76	24.4	86	SW	4	1.8	.....	2k	5s	SW	W	0.37	9.4	Clearing	
New Orleans, Louisiana	30.02	762.5	30.08	764.0	84	28.9	79	E	6	2.7	.....	5c	0	E	.....	0.02	0.5	Fair	
Newport, Rhode Island	29.87	758.7	29.92	760.0	70	21.1	95	SW	8	3.6	.....	.....	Fog	.....	.....	2.13	54.1	Foggy	
New York, New York	29.78	756.4	29.95	760.7	74	23.3	85	NW	4	1.8	.....	5k	Haze	NW	Calm	Inap.	Inap.	Fair	
Norfolk, Virginia	29.94	760.5	29.99	761.7	79	26.1	87	SW	1	0.4	.....	2c	0	NW	.....	1.57	39.9	Clear	
North Platte, Nebraska	27.03	686.6	29.48	748.8	65	18.3	94	NE	16	7.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Olympia, Washington Ter.	29.92	760.0	29.96	761.0	52	11.1	86	SW	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.80	731.5	29.81	757.2	76	24.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.67	753.6	29.98	761.5	68	20.0	74	NW	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Pembina, Dakota	29.03	737.3	29.83	757.7	61	16.1	94	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Philadelphia, Pennsylvania	29.92	760.0	29.97	761.2	74	23.3	81	NW	10	4.5	.....	1k	Sm'e	NW	Calm	0	0	Clear	
Phœnix, Arizona	28.63	727.2	.....	.....	97	36.1	43	N	.....	.....	1	8k	0	Calm	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.07	459.0	30.28	769.1	44	6.7	52	SW	8	3.6	.....	5k	0	SW	.....	0.01	0.3	Fair	
Pioche, Nevada	24.05	610.9	29.82	757.4	59	15.0	70	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.21	741.9	29.99	761.7	66	18.9	84	Calm	0	0	.....	5k	Sm'e	NW	Calm	0	0	Fair	
Port Huron, Michigan	29.30	744.2	29.94	760.5	64	17.8	73	NW	3	1.3	.....	0	2ks	.....	Calm	0.02	0.5	Clear	
Portland, Maine	29.84	757.9	29.88	758.9	68	20.0	90	Calm	0	0	.....	.....	Fog	.....	.....	0.02	0.5	Dense fog	
Portland, Oregon	29.93	760.2	30.04	763.0	59	15.0	88	NW	5	2.2	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.80	629.9	30.16	766.1	63	17.2	57	Calm	.....	.....	0	0	2ks	.....	Calm	0	0	Fair	
Pilot Point, Texas	29.29	744.0	30.08	764.0	75	23.9	90	SE	5	2.2	.....	2c	2s	S	SE	0	0	Cloudy	
Punta Rassa, Florida	30.10	764.5	30.11	764.8	83	28.3	83	E	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.43	747.5	29.76	755.9	75	23.9	33	N	12	5.4	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.71	754.6	29.91	759.7	81	27.2	74	NE	6	2.7	.....	.....	10s	.....	NE	0.03	0.8	Cloudy	
Rochester, New York	29.39	746.5	29.98	761.5	65	18.3	73	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.43	747.5	30.00	762.0	51.5	10.8	93	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Sacramento, California	29.69	754.1	29.77	756.1	58	14.4	82	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.48	748.8	30.02	762.5	78	25.6	78	S	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
St. Marks, Florida	30.03	764.3	30.10	764.5	78	25.6	95	N	2	0.9	.....	8k	0	N	.....	0	0	Fair	
St. Paul, Minnesota	29.03	737.3	29.81	757.2	68	20.0	84	E	4	1.8	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy	
Salt Lake City, Utah	25.61	650.5	29.94	760.5	65	18.3	58	SE	8	3.6	.....	0	0	.....	.....	0.01	0.3	Clear	
San Antonio, Texas	29.27	743.4	29.82	757.4	79	26.1	87	NE	4	1.8	.....	.....	10s	.....	NE	0	0	Cloudy	
San Diego, California	29.78	756.4	29.85	758.2	66	18.9	79	NE	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.35	745.5	29.99	761.7	71	21.7	71	SW	4	1.8	.....	10k	0	Calm	.....	0	0	Cloudy	
Sandy Hook, New Jersey	29.91	759.7	29.94	760.5	78	25.6	86	NW	10	4.5	.....	8k	Haze	NW	NW	0	0	Cloudy	
San Francisco, California	29.76	755.9	29.82	757.4	55	12.8	87	SW	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	57	13.9	58	Calm	0	0	.....	5cs	0	Calm	.....	0.03	0.8	Fair	
Savannah, Georgia	30.00	762.0	30.09	764.3	85	29.4	79	W	6	2.7	.....	2cs	Haze	Calm	Calm	0.01	0.3	Fair	
Shreveport, Louisiana	29.87	758.7	30.07	763.8	79	26.1	82	SE	2	0.9	.....	2c	0	E	.....	0	0	Fair	
Silver City, New Mexico	24.31	617.5	.....	.....	62	16.7	94	Calm	0	0	.....	5ck	0	Calm	.....	0.64	16.3	Fair	
Smithville, North Carolina	30.03	762.7	30.07	763.8	78	25.6	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.75	755.6	29.88	758.9	73	22.8	64	NW	5	2.2	.....	0	0	.....	.....	0.24	6.1	Clear	
Stockton, Texas	26.95	684.5	29.95	760.7	70	21.1	48	SE	16	7.2	.....	1k	0	Calm	.....	6	0	Clear	
Thatcher's Island, Mass	29.86	758.4	29.91	759.7	65	18.3	95	S	8	3.6	.....	.....	10s	.....	S	0.20	5.1	Cloudy	
Toledo, Ohio	29.31	744.5	29.96	761.0	71	21.7	66	Calm	0	0	.....	.....	10s	.....	NW	0	0	Clear	
Tucson, Arizona	27.25	692.1	29.80	756.9	78	25.6	82	E	2	0.9	.....	.....	10n	.....	Calm	0.23	5.8	Light rain	
Tybee Island, Georgia	30.09	764.3	30.11	764.8	83	28.3	83	SW	5	2.2	.....	5cs	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.57	751.1	.....	.....	58	14.4	88	SE	4	1.8	.....	.....	10s	.....	SE	0.10	2.5	Cloudy	
Uvalde, Texas	29.08	738.6	29.86	758.4	76	24.4	86	E	10	4.5	.....	.....	10s	.....	E	0	0	Cloudy	
Vicksburg, Mississippi	29.86	758.4	30.11	764.8	77	25.0	91	SE	6	2.7	.....	5c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.33	618.0	29.81	757.2	59	15.0	70	SE	4	1.8	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Visalia, California	29.43	747.5	29.79	756.7	59	15.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.90	759.4	30.01	762.2	73	22.8	85	NW	4	1.8	.....	8ck	0	NW	.....	Inap.	Inap.	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.96	761.0	30.04	763.0	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Winnemucca, Nevada	25.69	650.2	29.96	761.0	47	8.3	70	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.87	758.7	29.93	760.2	70	21.1	95	S	16	7.2	.....	.....	10n	.....	.....	4.07	103.4	Heavy rain	
Yankton, Dakota	28.66	728.0	29.88	758.9	70	21.1	92	N	4	1.8	.....	.....	Fog	.....	Calm	0	0	Foggy	
Yuma, Arizona	29.57	751.1	29.72	754.9	89	31.7	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.72	754.9	29.77	756.1	48.5	9.2	85	SW	10	4.5	.....	4c	3s	SW	SW	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	30.03	762.7	30.05	763.3	81	27.2	70	SE	2.4	1.1	.....	8cs	2n	Calm	Calm	0.02	0.5	Cloudy	Chas. Hasselbrink.
Santiago de Cuba, W. I.	29.96	761.0	29.99	761.7	80	26.7	82	NNE	6	2.7	.....	4c	2k	.....	.....	0	0	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	83	28.3	83	NE	2	0.9	.....	2c	2k	E	.....	0.12	3.0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.14	765.5	30.15	765.8	79	26.1	90	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.91	759.7	29.99	761.7	83	28.3	.....	E	9.6	4.3	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	79	26.1	87	E	.....	.....	1	.....	8ks	.....	.....	0.900	22.86	Cloudy	O. J. Hering
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	67.5	19.7	69	S	2	0.9	.....	1cs	0	.....	.....	0	0	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,840 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,179.7 ft., or 4,313.1 m.; Pioche, 5,778.0 (?) ft. or 1,761.4 (?) m.; Prescott, 5,589 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.25	768.3	82	27 8	82	27.8	91	NE	4	1.8	.....	.....	2	.....	SE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.98‡	761.5‡	.....	.....	67	19.4	89	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	
Naval Hospital, Yokohama, Japan.....	29.92*	760.0*	76.2	24.6	75.4	24.1	86	SE	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Adams. Apia, Samoan Islands..	30.08	764.0	80	26.7	79	26.1	100	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance, N. 41° 19′, E. 3° 00′.....	30.01‡	762.2‡	.....	.....	79	26.1	86	ENE	.....	.....	2	.....	1	.....	ENE	.....	.....	Gentle	ENE	Clear.....	
Ashuelot. Kobe, Japan.....	30.01	762.2	80	26.7	79	26 1	95	W	.....	.....	2	.....	2	.....	Calm	.....	.....	Ground	SE	Hazy	
Alaska. S. 32° 49′, W. 48° 28′.....	30.45	773.4	65	18.3	65	18.3	63	NNE	.....	.....	6	.....	5	.....	SW	0	0	Long	NE	D. clouds.....	
Canonicus, New Orleans, La.....	30.10	764.5	57	13.9	82	27.8	83	NE	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.....	29.90‡	759.4‡	.....	.....	76	24.4	86	WNW	6	2.7	.....	.....	8	.....	WNW	0.08	2.0	.....	.....	Foggy.....	
Constitution, Havre, France.....	30.04‡	763.0‡	.....	.....	68	20.0	70	E	.....	.....	1	.....	9	.....	S	.....	.....	.....	.....	Cloudy.....	
Despatch, N. 40° 54′ 30″, E 28° 44′ 30″	29.91‡	759.7‡	.....	.....	74	23.3	86	ENE	.....	.....	3	.....	2	.....	NE	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.....	30.12	765.0	77	25.0	77	25.0	95	NW	3	1.3	....	.....	2	.....	NW	1.55	39.4	.....	.....	D. clouds.....	
Gettysburg Toulon, France.....	29.96‡	761.0‡	.....	.....	82	27.8	96	S	.....	.....	2	.....	2	.....	Calm	0	0	Smooth	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil ...	30.33	770.4	.....	....	67	19.4	69	N	2.4	1.1	.....	.....	8	.....	SW	0.13	3.3	.....	.....	Cloudy.....	
Marion, Barcelona, Spain.....	30.05	763.3	77	25.0	77	25.0	73	ESE	.....	.....	2/	.....	5	.....	WSW	0	0	Smooth	.....	Fair.....	
Michigan, Milwaukee, Wisconsin..	29.46	748.3	73	22.8	70	21.1	80	ESE	.....	.....	1	.....	10	.....	SE	.....	.....	.....	.....	Cloudy	
Monocacy. Yokohama, Japan	29.90‡	759.4‡	.....	....	78	25.6	82	SSE	.....	.....	1-2	.....	2	.....	SE	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.....	30.28	769.1	83	28.3	82	27.8	83	W	8	3.6	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.10†	764.5†	.....	.....	62	16.7	83	S	.....	.....	1	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	74	23.3	95	Calm	.....	.....	0	.....	5	.....	SW	0	0	.....	.....	Fair.....	
Palos, Tientsin, China.....	29.88	758.9	75	23.9	73	22.8	99	N	.....	.....	3	.....	10	.....	E	.....	.....	.....	.....	Misty.....	
Plymouth. New York, N. Y..... ...	30.19	766.8	76	24.4	75	23.9	90	WNW	.....	.....	2	.....	2	.....	WNW	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China.....	30.01	762.2	86	30.0	86	30.0	84	SSW	.....	.....	1	.....	8	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo, Brownsville, Texas.....	29.80	756.9	80	26.7	80	26.7	96	SE	.....	.....	.....	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Santee, Annapolis, Md...	29.97‡	761.2‡	.....	.....	76	24.4	82	NW.	.....	....	2	.....	2	.....	N; W	0	0	.....	.....	Clear.	
St. Louis, League Island, Pa.....	29.94	760.5	75	23.9	75	23.9	86	NW	7	3.1	.....	.....	2	.....	NNW	0.01	0.3	.....	.....	Fair	
Supply, Havre, France.....	30.12	765.0	68	20.0	70	21.1	61	SE	.....	.....	0-1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.....	29.91‡	759.7‡	.....	.....	72	22.2	90	SSE	.....	.....	1	.....	10	.....	... ...	.....	.....	.....	.....	Cloudy.....	
Trenton. Cherbourg, France.....	30.03‡	762.7‡	.....	.....	69	20.6	75	ENE	.....	.....	3	.....	6	.....	N; E	0	0	.....	.....	Fair	
Tuscarora. Acapulco, Mexico.....	29.59	751 6	77	25.0	78	25.6	91	NE	.....	.....	1	.....	10	.....	Calm	2.7	68.	.....	.....	Cloudy	
Vandalia. Villafranca, France.....	29.98‡	761 5‡	.....	.....	77	25.0	82	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.....	29.92‡	760.0‡	.....	.. ..	70	21.1	95	S	1	0.4	.....	.....	10	....	Calm	0.07	1.8	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 39° 59', W. 150° 46'		30.33*	770.4*	68	20.0	100	WSW			4		9		NW	Blank	Light	WNW	Rainy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		30.06†	763.5†				Calm			0		4		Calm				Clear	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.89	759.2	81	27.2	96	SW	5	2.2			4		S	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City ot Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.04†	763.0†	52	11.1	??	NNW			1		1		NNW	0			Blue sky	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 41° 58', W. 53° 27'		30.19*	766.8*	72	22 2	85	SW			3				WSW	0	None		D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 36° 09', E. 144° 49'		29.81*	757.2*	71	21.7	75	N			3		k		N		Smooth	N	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 40', W. 125° 40'		29.72†	754.9†	58	14.4	82	NW			5		k		NW	0	Heavy	NW	Foggy	Capt. W. H. Kidley.
S. S. Oceanic, N. 40° 16', E. 151° 47'		29.90	759.4	63	17.2	89	NNE			4		5		NE		2	NE	D clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin																			Capt. C. Pohle.
S. S. Braunschweig, N. 49° 54' W. 8° 8'		30.01	762.2	68.5	20.3	67	ESE			1		2		S		4	NNW	Fair	
S. S. Leipzig																			Capt. Undütsch.
S. S. Nürnberg																			Capt. F. Pfeiffer.
S. S. Ohio																			Capt. A. Jaeger.
																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—Continued.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		30.02*	762.5*	67	19.4	95	W			1		5		E	0				Captain Sargent.
S. S. Ohio, Philadelphia, Pa		30.07†	763.8†	75	23.9	95	NE			1		10?		SSW	0			Clear	Captain Morrison.
S. S. Pennsylvania, St. George's Channel		30.07†	763.8†	77	25.0	95	NW			2		6?		NW	0	Smooth		Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland, N. 49° 09′ W. 16° 38′		29.92*	760.0*				S	20	8.9			2		SSE		Slight	NNE	Fair	Capt. Jackson. Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Sandy Hook, N. J.		29.83?	757.7?				W	3	1.3			5d		W	0.54 in or 13.7 mm			Foggy	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		29.90*	759.4*	45.0	7.2		Calm			0		10s			0.55 in or 14.0 mm.			Raining	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 19, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.06	763.5	84.6	29.2	64	Calm	.....	.....	0	.....	1	.....	.....	0	0	Very fair.....	Kesxuche.
Algiers	.....	.....	29.97	761.1	84.6	29.2	66	WNW	.....	.....	5	.....	0	.....	.....	0	0	Clear.....	Tourilière.
La Calle	.....	.....	29.96	761.0	84.9	29.4	75	NNW	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	Foufrede.
Tunis	.....	.....	29.95	760.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.01	762.2	89.6	32.0	.....	SE	.....	.....	3	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30.10	764.6	104.9	40.5	36	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Herbin.
Tebessa	.....	.....	29.99	761.7	90.5	32.5	.....	N	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	Watrin.
Geriville	.....	.....	30.15	765.9	97.3	36.3	33	NNE	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.05	763.3	101.8	38.8	18	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Bertrand.
Biskra	.....	.....	30.00	762.1	106.7	41.5	21	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 899? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.31	744.5	29.83	757.7	79.2	26.2	49	SE	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozic.
Cracow, I. R. Observatory	29.11	739.4	29.84	758.0	75.7	24.3	47	W	.....	.....	1	.....	1	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.00	736.7	29.84	757.8	79.2	26.2	72	Calm	.....	.....	0	.....	0	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.65	727.6	29.84	758.0	74.5	23.6	63	ESE	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.52	724.3	29.86	758.4	79.5	26.4	50	SE	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.47	723.1	29.74	755.5	73.0	22.8	62	WNW	.....	.....	1	.....	3c;k	.....	.....	0.331	8.4	.....	Prof. C. Wagner
Lemberg	28.89	733.8	29.84	757.9	71.4	21.9	64	SW	.....	.....	3	.....	2	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.74	755.3	29.81	758.0	80.6	27.0	62	SSW	.....	.....	1	.....	3cs	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.47	748.5	29.91	759.7	77.0	25.0	49	E	.....	.....	4	.....	0	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.76	756.0	29.87	758.6	77.9	25.5	62	NW	.....	.....	1	.....	1	.....	.....	0.398	22.8	Thunder-storm.	P. Busin.
Vienna	29.10	739.1	29.78	756.3	78.3	25.7	53	SSE	.....	.....	2	.....	6	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 497.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.37	720.5	29.83	757.6	66.2	19.0	75	SW	.....	.....	2	.....	10	.....	.....	0.287	7.3	.....	Prof. M. Passau.
Brussels	29.63	752.5	29.82	757.4	64.9	18.3	80	ENE	.....	.....	2	.....	10	.....	NE	0	0	.....	Royal Observatory
Furnes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.071	1.8	.....	M. E. de Cae.
Maeseyck	29.73	755.2	29.86	758.4	65.5	18.6	76	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer, corrected for instrum'tal error and temperature: Inches.	Barometer, corrected: Millimeters.	Barometer, reduced to sea-level: Inches.	Barometer, reduced to sea-level: Millimeters.	Temperature of the air: Fahrenheit.	Temperature of the air: Centigrade.	Relative humidity: Per cent.	Wind direction: From—	Wind velocity: Miles per hour.	Wind velocity: Meters per second.	Wind force: 0—10.	Clouds amount, Up'er: 0—10.	Clouds amount, Low'r: 0—10.	Clouds direction, Upper: From—	Clouds direction, Lower: From—	Rain-fall or melted snow in the past 24 hours: Inches.	Rain-fall: Millimeters.	Weather.	OBSERVER.
Aberdeen	29.93	760.2	30.03	762.7	53.7	12.1		ENE	12	5.4			9			0.025	0.63	Overcast	W. Boswell.
Ardrossan	29.92	760.0	29.94	760.5	67	19.4		S			1		5					D. clouds	George Carrick.
Armagh, Observatory			29.95	760.7	65.8	18.8		NE	7	3.1			4					D. clouds	S. Cail.
Bidston, (Liverpool Obs.)			29.89	759.2	66.2	19.0		NNW	6	2.7			8					Overcast	John Hartnup.
Birr Castle, (Parsonstown)	29.71	754.6	29.90	759.4	66.9	19.4		SSE			1		10					D. clouds	William Harding.
Bolton																			Thomas Mackereth.
Bradford, Yorkshire	29.56	750.8	29.95	760.7	67.5	19.7		W			1		6			0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	85	29.4		NE			3		2					D. clouds	Pvt. G. W. Roberts, A. H. C.
Cambridge, Observatory			29.85	758.2	72.0	22.2		ESE			1		1					D. clouds	H. Todd.
Cardington			29.88	758.9	72.4	22.4		E			1		8					Overcast	John McLaren.
Chatham, School M. E.	29.71	754.6	29.84	757.9	65.2	18.4		E			3		8					D. clouds	Lt. W. G. Morris, R. E.
Dartmoor	28.51	724.1	29.94	760.7	61.0	16.1		E			3		4					Fine	Alexander Watt.
Donaghadee	29.92	760.0	29.95	760.7	61	16.1		N			2		10					Misty	J. Mac Gowan.
Dover	29.82	757.4	29.85	758.2	65	18.3		E			3		7					Gloomy	J. Costello.
Eccles, (near Manchester)			29.89	759.2	67.5	19.7		NE		0.4			10					Overcast	Thomas Mackereth.
Falmouth, Observatory	29.64	752.8	29.86	758.4	65.7	18.7		ENE			1		10					Overcast	The Staff.
Fort Napier, (Natal)	27.38	695.4	29.68	753.9	85.0	29.4		N			3		8					D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.73	755.1	29.96	761.0	77	25.0		W			0		3					D. clouds	
Galway, Queen's College			29.86	758.4	68	20.0		E			1		10					Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	30.00	762.0	30.05	763.3	79.6	26.4		SW			3		1					Blue sky	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.75	755.6	29.96	761.0	64.2	17.9		ENE			3		9					Gloomy	D. G. Maclean.
Great Yarmouth	29.88	758.9	29.89	759.2	66	18.9		E			2		2					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.68	753.9	29.85	758.2	68.3	20.2		E			1		9					Nearly overcast.	The Staff, for G. B. Airy.
Guernsey	29.56	750.8	29.78	756.4	63.5	17.5		NE			2		8			Blank	Blank	D. clouds	Dr. S. E. Hoskins, F. R. S.
Helston			29.92	760.0	68	20.0		NE			2		6c			0.02	0.5	Fine	M. P. Moyle.
Holyhead	29.85	758.2	29.90	759.4	61	16.1		NNE			3		2					Blue sky	John Tilston.
Jersey	29.51	749.5	29.79	756.7	66.6	19.2		NE			3		10			Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory			29.84	757.9	68.5	20.3		NE	14	6.3			8					Misty	The Staff.
Kingstown	29.91	759.7	29.94	760.5	62	16.7		E			3		5					D. clouds	George Mitchell.
Leicester, Museum			29.88	758.9	69.1	20.6		NE			2		4					D. clouds	Wm. J. Harrison, F. G. S.
Malta, (Mediterranean)	29.80	756.9	29.88	758.9	87.6	30.9		NE			1		0					Blue sky	H. J. Becket, A. H. C.
Nairn	29.90	759.4	29.99	761.7	60	15.6		E			4		10					Covered	W. D. Penny.
Nassau, (Bahamas)			30.06	763.5	85.2	29.6		NE			1		7					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.71	754.6	29.90	759.4	69.7	20.9		NNE			2		7ks;k		ESE	0	0	D. clouds	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.37	746.0	29.87	758.7	67.8	19.9		NE			2–3		8					Hazy	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			29.87	758.7	70	21.1		N			1		2					Blue sky	H. E. Bellamy.
Plymouth	29.76	755.9	29.84	757.9	67.6	19.8		ENE			3		6					D. clouds	John Merrifield
Roche's Point	29.86	758.4	29.90	759.4	63	17.2		ESE			3		10					Dull	W. Kennedy.
Saint Ann's Head	29.71	754.6	29.87	758.7	71	21.7		S			1		7					Gloomy	John C. Walker.
Sandwick Manse, (Orkneys)			30.05	763.3	56.7	13.7		NE	9	4.0			9					D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)			29.81	757.2	85.0	29.4		NE			2		0					Blue sky	Sergt. W. H. Lyne.
Sheffield	29.61	752.8	29.91	759.7	68.6	20.3		NNE			2		6			0	0	D. clouds	W. F. Cooper.
Silloth Rectory	30.00?	762.0?	29.94	760.5	67.5	19.7	62	SW			3		4			0	0	D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.52	749.8	29.92	760.0	69.4	20.8		NE			2		5					D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.95	760.7	29.98	761.5	60	15.6		E			2		8						John Sutherland.
Stratfield Turgiss																			Rev. C. H. Griffith, F. M. S.
Thurso			30.03	762.7	56	13.3		ESE			1		10					Gloomy	John Trotter.
Truro, Royal Institution			29.86	758.4	72	22.2		NW			4		6					D. clouds	W. Newcombe.
Valencia, Observatory			29.86	758.4	63.8	17.7		ESE	12	5.4			9					D. clouds	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)			29.96	761.0	52	11.1	81	W			3		10kn			0.35	8.9		Francis Abbott, F. R. A. S.
Leith, Restalrig Park																			Andrew Gibb.
Mauritius, Observatory	30.03	762.7	30.22	767.5	72.0	22.2	60	E	25.0	11.2		0	4		ESE	0.20	5.1	Squally	C. Meldrum.
Melbourne, Observatory	30.35	770.9	30.44	773.2	48.2	9.0	84	WNW	8	3.6		10				0.10	2.5	Dull	R. L. J. Ellery.
Monach L't-house, (Hebrides)																			J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Barometer corrected: Inches.	Barometer corrected: Millimeters.	Reduced: Inches.	Reduced: Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind: From—	Miles per hour.	Meters per second.	Force.	Clouds Up'er.	Clouds Low'r.	Upper: From—	Lower: From—	Sea or swell: Height scale 0–9	Sea or swell: Direction from—	Weather.	Observer.
S. S. Algeria																			Capt. W. Watson.
Brig Catherine, N. 48° 20', W. 50° 50'			29.90	759.4	52	11.1		ESE			3		10			3	NNE	Foggy	Capt. Alex. Wilson.
Barque Commewyne																			Capt. A. Buchan.
S. S. Gordon Castle																			Capt. W. Waring.
Barque Margaret Smith																			Capt. D. W. A. Qualle
S. S. Peruvian																			Capt. W. H. Smith, R. N. R.
Schooner Traveller, Off Cape Henlopen, Del.			29.86	758.4	74	23.3		W			2		1			4		Blue sky	Capt. Alex Simpson.
Barque Virginia																			Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.26	667.0			68.0	20 0	93	S			1	6c				0.6	15		Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Copenhagen	29.70	754.4	29.75	755.6	64.2	17.9	56	NW			4		4						
Fanöe	29.77	756.1	29.79	756.6	61.7	16.5	73	NW			4		7						
Godthaab, (Greenland)	29.77	756.2	29.82	757.3	49.3	19.6	60	S			6		10						
Stykkisholm, (Iceland)	29.97	761.3	30.0	762.4	52.9	11.6	76	Calm			0		8						
Thorshavn, (Farõe)	30.10	764.4	30.13	765.3	52.3	11.3	60	Calm			0		5						
Vestervig	29.61	752.0	29.78	756.3	61.5	16.4	68	NW			6		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Alençon, Normal School	29.19	741.3	29.74	755.3	66.9	19.4	87	S			1		10			0.402	10.20	Covered	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.82	757 3	29.89	759.3	87.1	30.6	36	W			1		0			0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.35	745.4	29.89	759.2	64.9	18.3	74	SW			1		10		W			Sprinkling	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.53	750.0	29.80	757.0	72.5	22.5	65	SE			1		10		SSE	0.069	1.75	Covered	Frere Eugene Marie, Director.
Besançon	29.04	737.7	29.90	759.5	73.4	23	68	SW			3		2		SW	Inap.	Inap.	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.27	743.5	29.80	757.0	70.7	21.5	87	SW			3		10kn		SW	0.24	6.	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.53	750.0	29.77	756.1	68.0	20.0	77	N			1		9		N	0.236	6.00		The Staff.
Carcassonne, Normal School	29.56	750.8	29.95	760.7	82.8	28.2	43	W			2		2	W		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.10	739.1	29.65	753.1	64.9	18.3	98	SE			2		10		NW	0.87	22.	Heavy rain	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.2	29.84	757.9	72.7	22.6	76	SW			4		5	NE	NE	0.161	4.1	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.58	725.8	29.87	758.6	75.2	24.0	39	W			2				SW	0	0		Alluard, Director.
Commercy, Normal School	29.04	737.5	29.88	758.9	69.8	21	65	W			3		5k		W	0.020	0.5	Cloudy	Dr. Coulet, Director
Commune de Gréasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.57	751.0	29.78	756.3	63.9	17.7	88	W			4		10		W	0.197	5.0	Covered	Mouillot, Director.
Le Mans, Normal School	29.41	747.1	29.71	754.7	65.5	18.6	90	S			1		5		SE	0.335	8.50	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.07	738.3	29.94	760.5	77.0	25	62	SW			4		5		SW	0.110	2.80	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.69	754.1	29.79	756.6	73.8	23.2	72	W			3		8		W	0.094	2.4	¾ Covered	T. Carré, Director.
Mâcon, Normal School					75.4	24.1	85	SE			1		2		SE	0.138	3.5	Partly cl'dy	M. Galzin, Director
Mirecourt, Normal School	28.78	730.9	29.77	756.2	71.2	21.8	62	W			3		5k		W	0.04	1.	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.98?	761.5?	30.17?	766.4?	83.1	28 4	30	N			6		0			0	0	Clear	Boyer, Director.
Privas, Normal School	28.91	734.4	29.93	760.1	80.6	27	37	SE			1			NE	SE	0	0		M. Cautier.
Puy de Dome (Summit)	25.12	638.0			50.9	10.5	100	W			4					0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.91	759.7	29.94	760.5	69.4	20.8	75	SW			9		10		SW	0	0	Covered	M. Giguel, Director.
Rouen, Normal School	29.67	753.5	29.75	755.7	66.0	18 9	86	SE			2		10		SE	0.236	6.0	Covered	F. Lucard, Director.
Saint Malo (Port)			29.75	755.6	66.0	18.9	84	NNE			2		1		NNW	0.331	8.41	Clear	M. H. Hercouet
Tarbes, Normal School	28.97	735.9	30.02	762.4	71.6	22	66	SE			2		10			0.31	* 8.	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	82.4	28										0.20	5.		L'Abbé Marchés.
Lyons			30.15	765.7	84.9	29.4	34					0				0	0		L. Jays.
Marseilles, Observatory			29.88	758.9	81.0	27.2	47	SW			1	0				0	0		The Staff.
Mont-Louis	24.93	633.2	30.24	768.2	72.0	22.2	24	SSW	11.2	5.00		0				0	0		M. Cave.
Nice			29.89	759.1	79.5	26.4	78	S			1	1				0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.52	749.9	29.80	756.9	63.0	17 2	96	S			3	10				0.173	4.4		Marié Davy, Director
Perpignan			29.94	760.4	85.5	29.7	35	N	9.3	4.17		2			SW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.62	574.6			50.7	10.4		SW			2	3				0.087	2.2	Fair	Gen'l de Nansou y
Saint Maur, (near Paris)	29.65	753.1	29.82	757.3	64.0	17.8	95	S			2	10		S		0.559	14.2	Raining	E. Renou.
Toulouse, Observatory	29.34	745 2	30.07	763.6	74.8	23.8	48	NNW			3	7				0	0		The Staff.
Tours	29.76?	755.9?	29.96?	760.9?	66.9	19.4	89	SW			2	10		W		0.453	11.15		C. Marquet.
Versailles			29.8	757.0	66.6	19.2	72	S			3	10				0.366	9.30	Raining	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.84	757.8	29.86	758.4	77.4	25.2	93	Calm	0	0		0				0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10	Up'er 0–10	Low'r 0–10	Upper From—	Lower. From—	Inches.	Millimeters.		
Bamberg	29.00	736.6	29.82	757.5	66.6	19.2	80	W			1		8	W		0.16	4.	Raining	Prof. Dr. Hoh.
Berlin	29.66	753.4	29.83	757.6	71.6	22.0	54	S			1		8			0	0		Prof. Arndt.
Breslau	29.34	745.1	29.86	758.5	76.6	24.8	44	SSE			2		10			0	0		Royal University Obs'y
Carlsruhe	29.39	746.6	29.80	757.0	70.5	21.4	81	SW			1		9			0.335	8.5	Raining	Albert Senz.
Cassel	29.21	742.0	29.82	757.3	68.5	20.3	72	NNE			2		8	SSW		0	0		Dr. H. Möhl.
Crefeld	29.65	753.0	29.81	757.1	63.5	17.5	85	N			3		10			0	0		Director Lose.
Emden	29.78	756.4	29.82	757.4	66.4	19.1	67	N			1		5			0	0		Prof. Prestel.
Frankfort on the Main	29.48	748.7	29.83	757.7	63.5	17.5		S			1		10			0.047	1.2	Raining	Physical Society.
Friedrichshafen	28.59	723.8	29.89	759.1	68.4	20.2	83	SW			1		5	WSW		0.402	10.2		M. Wilhelm.
Hamburg	29.78	756.3	29.85	758.1	65.7	18.7	72	W			4		9			0.016	0.4	Pleasant	Captain F. Hegemann.
Kiel	29.79	756.7	29.81	757.1	66.6	19.2	69	W			2		7			0.148	3.75		Prof. G. Karsten.
Königsberg, (Prussia)	29.73	755.1	29.81	757.2	63.1	17.3	68	SW			4		4			0.315	8.0		Prof. E. Luther.
Köslin			29.742	755 32	65.1	18.4		W			4		2			0	0		H. Müller.
Leipsic, Observatory	29.13	747.5	29.84	757.8	72.7	22.6	47	SSE			1		9			0	0		Prof. Bruhns.
Memel, Naval School	29.72	754.8	29.76	756.0	64.9	18.3	67	W			4		3ks						Reinbrecht and Skalweit.
Neufahrwasser	29.80	756.8	29.81	757.2	67.3	19.6	61	NNW			2		4			0	0		A. Lothes.
Posen	29.61	752.2	29.89	759.3	69.8	21.0	56	NW			1		10			0	0		Dr. Magener.
Strassburg (in Alsace)	29.30	744.3	29.83	757.6	76.5	24.7	60	SW			3		6	W		0	0		Astronomical Observatory.
Stuttgart	28.90	734.0	29.79	756.7	75.2	24.0	51	W			1		8	W		0.157	4.0	Raining	Prof. Schoder.
Treves, (Trier)	29.30	744.1	29.82	757.3	70.7	21.5	67	SW			5		10			0.034	0.86		Prof. Flesch.
Weissenburg, (Bavaria)	28.38	720.9	29.84	757.8	64.2	17.9	84	W	2.7	1.2			10		W	0.016	0.4	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.53	757.6	29.87	758.6	64.0	17.8	70	W			3		4			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.41	747.0	29.78	756.4	90.5	32.5		NE			6.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.23	742.2	29.69	754.2	83.0	28.3	85	Calm					6	NE		Blank	Blank	D. clouds	
Bombay	29.71	754.6	29.75	755.5	80.5	26.9	93	WSW	13	5.8			10		SSW	0.30	7.6	Overcast	
Poona	27.74	704.5	29.74	755 4	76.2	24.6	81	W					10		W	0.05	1.3	Overcast	
Lahore	28.86	733.1	29.60	751.9	80.4	26.9	85	E	3.4	1.5			5		E	0	0	D. clouds	
Belgaum	27.27	692.5	29.81	757 2	72.9	22.7	92	W	7	3.1			6			0	0	D. clouds	
Roorkee	28.72	729.5	29.62	752.3	77.8	25.4	93	Calm	2.2	1.0			10			0.34	8.6	Gloomy	
Agra	28.96	735.7	29.52	749.8	81.7	27.6	79	S					4		S	0	0		
Nagpur	28.62	726.9	29.65	753.2	81.8	27.7	86	Calm	6.0	2.7			9		NE	0.19	4.8	Gloomy	
Lucknow																			
Allahabad	29.27	743.5	29.58	751.4	80.7	27.1	92	Calm	3.3	1.5			10			1.02	25.9	Overcast	
Patna	29.43	747.6	29.61	752.2	84.0	28.9	89	E	1.6	0.7			8	E	E	0.32	8.1	D. clouds	
Hazaribagh	27.62	701.6	29.61	752.2	79.8	26.6	83	E	9.4	4.2			9			0.06	1.5	Raining	
Cuttack	29.55	750.5	29.63	752.6	87.6	30.9	73	SSW	1.8	0.8			2			0	0	D. clouds	
Calcutta (Alipore)	29.62	752.5	29.65	753.0	83.8	28.8	83	S	5.0	2.2			7	S	S	0.02	0.5	D. clouds	
Goalpara	29.28	743.6	29.66	753.4	82.7	28.2	79	SSW	5.8	2.6			9			0.03	0.8	D. clouds	
Chittagong	29.65	753 2	29.75	755.5	82.4	28.0	89	S	5.8	2.6			2			0	0	Misty	
Sibsagar	29.34	745.4	29.68	753.7	86.0	30.0	78	WSW	2.3	1.0			10			0.17	4.3	D. clouds	
Jubbulpore	28.27	718.0	29.63	752.5	79.8	26.6	83	NW	7.6	3.4			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.45	748.0	29.84	758.0	79.7	26.5	45	S	1.3	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.75	755.6	29.85	758.3	81.3	27.4	48	ENE	1.8	0.8	.....	.....	9	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.67	753.6	29.85	758.2	81.5	27.5	50	E	1.3	0.6	.....	.....	5	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.55	725.2	29.80	756.9	83.1	28.4	47	NW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.33	744.9	29.82	757.4	84.0	28.9	46	E	.....	.....	2	.....	6	W	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.96	735.5	29.82	757.5	79.2	26.2	62	NNE	4.9	2.2	.....	.....	6	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.98	710.8	29.80	757.0	80.8	27.1	53	N	.....	.....	6	.....	6	S	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.64	752.9	29.85	758.3	82.8	28.2	57	SW	.....	.....	2	.....	3	W	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.67	753.7	29.84	757.9	81.9	27.7	60	SW	.....	.....	4	.....	2	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.52	749.8	29.82	757.5	84.2	29.0	42	NE	.....	.....	4	.....	6	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.58	751.2	29.82	757.4	91.4	33.0	33	W	.....	.....	2	.....	5	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.76	756.0	29.84	758.0	83.8	28.8	68	W	6.9	3.1	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.80	756.8	29.84	758.0	79.0	26.1	52	NE	.....	.....	.....	.....	1	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.35	720.0	29.83	757.7	80.4	26.9	50	E	.....	.....	1	.....	3	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.71	754.5	29.87	758.8	90.9	32.7	39	SW	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.71	754.5	29.90	759.4	85.1	29.5	65	SSW	.....	.....	4	.....	1	NW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.63	752.6	29.87	758.7	82.8	28.2	36	ENE	18.6	8.3	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.71	754.6	29.89	759.3	85.5	29.7	67	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.01	736.8	29.85	758.1	92.1	33.4	55	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.69	754.0	29.93	760.2	82.8	28.2	63	E	2.5	1.1	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.86	758.5	29.93	760.3	83.7	28.7	58	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.37	746.1	29.93	760.2	85.5	29.7	70	SW	6.9	3.1	.....	.....	2	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.74	755.4	29.93	760.2	78.3	25.7	87	NNW	1.9	0.8	.....	.....	1s	.....	.....	0	0	Fair	
Tokei (Yeddo) Observatory	29.98	761.5	30.05	764.3	76.2	24.6	84	ESE	7.7	3.4	.....	.....	3s	.....	.....	0	0	Clear	I. Arai, Director.
Tokei (Yeddo) University	29.94	760.5	30.04	763.0	75.1	23.9	93	SE	5.5	2.5	.....	5ck	2s	.....	.....	0	0	Fair	Prof. P. V. Veeder

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	63.0	17.2	95	N	1.8	0.8	.....	0	10n	.....	.....	0.83	21.0	Raining	L. Castillo, A. E.
Guadalajara	24.92	633.0	29.83	757.5	61.7	16.5	91	E	1.8	0.8	.....	0	9	.....	SE	0.05	1.2	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	...	...	...	.....	.....	.....	.....	.....	.....	.....	.....	0.28	7.0	.....	Prof. V. Fernandes
Leon	24.31	617.7	29.81	757.1	65.3	18.7	80	ENE	0.9	0.4	.....	0	10n	.....	SE	0.18	4.5	Covered	Prof. M. Leal.
Mexico	23.03	585.0	29.98	761.6	57.7	14.3	87	SE	5.6	2.5	.....	7c	3k	E	.....	0.55	14.0	Covered	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.8	17.1	98	Calm	0	0	.....	0	10ks	.....	SE	0.47	11.8	Covered	M. V. de Leon, M. E
Puebla	23.33	592.4	29.96	761.1	56.7	13.7	95	Calm	0	0	.....	0	10ks	.....	.....	0.39	10.0	Rainy	Prof. B. Gonzalez.
Tlacotalpam	29.80	756.9	29.81	757.2	77.9	25.5	76	S	21.6	9.8	.....	0	10ks	.....	S	0	0	Covered	Prof. F. R. Bayly.
San Luis Potosi	24.15	612.6	30.06	763.4	62.0	16.7	93	SE	0.9	0.4	.....	0	10	.....	SE	1.51	38.4	Threatening	G. Barroeta, M. D.
Vera-Cruz	29.87	758.6	29.90	759.3	78.8	26.0	84	Calm	0	0	.....	0	10sk	.....	.....	Inap.	Inap.	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	58.1	14.5	90	SW	5.1	2.3	.....	0	9	.....	E	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.6	30.00	762.0	56.5	13.6	85	SE	8.7	3.9	.....	0	10	.....	S	0.58	14.7	Covered	Prof. P. Spina, [M.M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.25	717.4	29.87	758.6	77.9	25.5	82	S	2.8	1.6	.....	0	10	.....	.....	0.41	10.5	Covered	R. Banda, C. E.
San Juan E. Michapam	29.64	752.8	29.78	756.5	79.9	26.6	.....	SE	1.8	0.8	.....	6ck	4cs	.....	S	0	0	Covered	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.5 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.87	758.6	29.87	758.6	64.8	18.2	.....	NE	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	29.81	757.1	29.86	758.5	64.4	18.0	.....	N	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.87	7 8.7	29.87	758.7	63.3	17.4	.....	NNW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.82	757.5	29.82	757.5	63.1	17.3	89	E	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.83	757.6	29.87	758.8	65.3	18.5	71	NE	.....	.....	2	.....	8	.....	.....	0.004	0.1	Very cloudy	H. v d Bruk.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.80	756.8	29.85	758.2	57.2	14.0	53	NNW	19.7	8.8	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.68	753.9	29.72	754.9	52.2	11.2	73	NNW	18	8	.....	.....	8	.....	.....	0.126	3.2	.....	
Christiania	29.55	750.6	29.70	754.3	56.8	13.8	65	ENE	9	4	.....	.....	9	.....	.....	0	0	.....	
Tromsö	29.73	755.2	29.78	756.3	48.2	9.0	68	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.92	759.9	30.11	764.7	69.4	20.8	80	W	8.1	3.6	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.10	739.0	30.07	763.8	81.5	27.5	30	SW	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	763.1	30.13	765.3	78 3	25.7	69	SSE	3.1	1.4	.....	.....	4	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.77	756.1	30.08	764.1	72.3	22.4	44	WSW	12.7	6.1	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.07	763.6	30.13	765.4	71.6	22.0	63	N	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—			
Bartholomew Dias	.....	.....	.....		R. A. T. Pinha, Com'd.
D. Fernando, N. 35° 52', W. 23° 52'	4	.....	D. Clouds ...		A. M. de Sande, Com'd.
India	.....	.....	.....		A. D. Pedroso, Com'd.
Mindello	.....	.....	.....		J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47', E. 11° 47'	1	.....	D. clouds		A. J. de Mattos, Com'd't. J. T. d'Oliveria, Com'd't.
Rio Douro	.....	.....	.....		
Sado, N. 14° 53', W. 23° 34'	2	SSW	Drizzling		L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48', E. 13° 08'	2	.....	D. clouds		F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo	.....	.....	.....		
.....	.....	.....	.....		

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.43	747.5	29.84	757.8	70.5	21.4	56	WNW	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.34	745.2	29.74	755.5	65.8	18 8	54	W	4	2	.....	.....	3	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.27	743.5	29.51	749.5	61.9	16.6	83	W	11	5	.....	.....	10n;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.40	746.7	29.41	747.1	65.1	18.4	71	SSE	11	5	.....	.....	9n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.17	740.8	29.78	756.3	69.8	21.0	48	NW	11	5	.....	.....	5k;ks	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.87	758 7	29.94	760 5	79.2	26.2	41	W	4	2	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.92	760.0	29.94	760.5	75.7	24.3	69	NW	7	3	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.01	736.8	29.54	750.3	59.5	15.5	90	SSW	9	4	.....	.....	8ks	.....	.....	.....	.....	Raining	Meteorological Obs.
Lugan	29.54	750.3	29.74	755.3	77.7	25.4	33	WNW	9	4	.....	.....	3c	.....	.....	.....	.....	.....	Meteorological Obs
Archangel	29.60	751.7	29.61	752.2	59.9	15.5	60	E	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.41	721.6	29.73	755.2	87.3	30.7	43	NW	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.78	756.3	29.69	754.2	84.9	29 4	41	NNE	4	2	.....	.....	5ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.13	740.0	29.39	746.5	66.6	19.2	64	W	2	1	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[kam 7c;ck;k;	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.24	717.4	29.14	740.1	65.1	18.4	71	W	13	6	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs
Nukuss	29.52	749.9	29.74	755.4	92.3	33.5	32	N	4	2	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.33	719.5	29.93	760.3	82.4	28.0	59	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.22	742.2	29.71	754.6	74.7	23.7	61	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs
Yeniseisk	29.58	751.3	29.86	758.4	67.1	19.5	58	N	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.65	753.2	29.80	756.8	73.0	22.8	98	Calm	0	0	.....	.....	9m	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47', E 48° 34'.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.83	757.7	29.93	760.2	88.5	31.4	53	SW	2.2	1.00	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.00	762.0	30.06	763.4	78.3	25.7	57	N	3.2	1.44	.....	2	1	SW	.....	0.134	3.4	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.19	690.7	.....	.....	68.9	20.5	57	S	11.2	5.22	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez
Madrid, Royal Observatory	27.86	707.6	29.97	761.3	82.0	27.8	28	SW	17.2	7.67	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.83	757.6	29.97	761.2	96.3	35.7	29	SW	2.2	1.00	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.14	740.1	30.02	762.5	65.7	18.7	78	WSW	13.0	5.83	.....	.....	10	.....	.....	0.067	1.7	Covered	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	30.00	762.0	30.07	763.6	81.1	27.3	82	E	7.2	3.2	.....	1cs	0	.....	.....	Inap.	Inap.	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.03	762.7	30.12	765.1	76.8	24.9	61	WSW	13.1	5.9	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I	29.95	760.6	30.04	762.9	83.8	28.8	80	SE	2.2	1.00	.....	2cs	1k	SE	SE	0.138	3.50	Clear	Leonardo de Tejeda, Ch'f Eng'r

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	28.58	751.2	29.61	752.2	64 4	18.0	.....	N	.....	.....	4	.....	2	.....	.....	0	0	.....	
Umea	29.46	748.3	29.51	749.6	61.9	16 6	56	NE	.....	.....	8	.....	10	.....	.....	0.213	5.4	.....	
Hernosand	29.35	745.6	29.41	746.9	50 0	10 0	98	NW	.....	.....	4	.....	10	.....	.....	1.020	25.9	.....	
Stockholm	29.40	746 8	29.58	751.3	59 5	15.3	46	WSW	.....	.....	6	.....	1	.....	.....	0.253	6.4	.....	
Wisby	29.61	752.1	29.67	753.6	61.9	16.6	60	W	.....	.....	6	.....	3	.....	.....	0.008	0.2	.....	
Sub-Series.																			
Upsala	29.48	748.7	29.55	750.6	62.1	16.7	45	WNW	11.4	5.1	.....	.....	3	.....	WNW	0.039	1.00	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.52	724.3	29 88	759 0	75.2	24.0	49	SSW	.....	.....	2	.....	6	.....	.....	0	0	Cloudy	The Observatory.
Zurich	28.31	719 0	29.89	759.1	71.8	22.1	74	S	.....	.....	1	.....	7	.....	.....	0.157	4.0	Cloudy.....	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —3.5 mm.; Thermometer, +2.5 cent.; Relative Humidity, —7 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.89	759.3	78.6	25.9	61	NE	21	9.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valona	.....	.....	30.00	762.1	83.7	28.7	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.55	750.6	29.67	753.5	92.8	33.8	60	SW	.....	.....	2	.....	2s	.....	SW	0	0	D. clouds.....	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.55	750.6	29.62	752.3	64.9	18.3	93	NE	6	2.7	.....	.....	10n	.....	.....	0	0	Threatening	Hon. J. Ferguson.
Brockville, Ontario	29.52	749.8	29.81	757.2	66	18.9	.....	SW	1	0.4	.....	.....	8s	.....	SW	0.02	0.5	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.56	750.8	29.62	752 3	66	18.9	93	N	4	1.8	.....	.....	10s	.....	N	0.08	2.0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island.	29.55	750.6	29.59	751.6	66	18.9	95	E	6	2.7	.....	.....	10n	.....	Calm	0.290	7.37	Light rain..	H. J. Cundall, C. E
Cornwall, Ontario	29.57	751.1	29.76	755.9	63.0	17.2	86	NW	.....	.....	1	9cs	0	NW	.....	0.017	0.43	Cloudy.....	James Smith, M. A
Dalhousie, N. B	29.48	748.8	29.64	752.8	64	17.8	100	E	.....	.....	1	.....	.....	.....	.....	0.33	8.4	Gloomy	H. A. Johnson.
Esquimault, B. C	29.79	756.7	29.84	757.9	54.2	12.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis,
*Father Point, Quebec	29.64	752.8	29.66	753.4	54	12.2	93	Calm	0	0	.....	.....	Fog	.....	Calm	0.03	0.8	Foggy.....	J. McWilliams.
Fredericton, N. B	29.56	750.8	29.62	752.3	66.8	19.3	80	E	6	2.7	.....	.....	10n	.....	.....	0.16	4.1	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.19	741.4	30.00	762.0	55	12.8	97	N	5	2.2	.....	Haze	Fog	N	N	0	0	Foggy	James Stewart.
Granton, Ontario	28.82	732.0	29.90	759.4	59	15.0	100	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast...	James Grant.
*Halifax, N. S	29.39	746.5	29.51	749.5	64	17.8	98	Calm	0	0	.....	.....	10n	.....	.....	0.627	15.93	Heavy rain.	F. Allison, M. A.
Hamilton, Ontario	29.54	750.3	29.90	759.4	63.3	17.4	82	NW	.....	.....	1	10ck	0	NW	.....	0	0	Overcast....	Geo. Dickson, M. A.
Heart's Content, N. F	29.84	757.9	29.86	758.4	68	20.0	88	S	.....	.....	1	.....	10	.....	.....	0.18	4.6	Overcast....	E. Weedon.
*Kingston, Ontario	29.50	749.3	29.83	757.7	64	17.8	82	N	3	1.3	.....	.....	10s	.....	Calm	0.07	1.8	Cloudy.....	S. Woods, M. A.
Little Glace Bay, N. S	29.61	752.1	29.65	753.1	65.0	18.3	.....	S	4	1.8	.....	.....	10n	.....	.....	0.34	8.6	Raining.....	C. H. Rigby.
*Montreal, Quebec	29.55	750.6	29.75	755.6	66	18.9	78	W	4	1.8	.....	5cs	0	.....	.....	Inap.	Inap.	Fair.....	C. H. McLeod, C. E
*Parry Sound, Ontario	29.18	741.2	29.85	758.2	66	18.9	89	W	8	3.6	.....	2ck	2ks	W	W	0.03	0.8	Fair.....	Rev. R. Mosley.
Peterboro, Ontario	29.13	739.9	29.86	758.4	63.2	17.8	88	W	.....	.....	2	0	8ks	.....	.....	0.01	0.3	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.22	742.2	29.90	759.4	61	16.1	88	NW	5	2.2	.....	10k	0	W	.....	0	0	Cloudy.....	H. Morgan.
Port Hastings, N. S	29.47	748.5	29.52	749.8	65.6	18.7	.....	E	5	2.2	.....	.....	.....	.....	.....	2.10	55.9	Raining	Peter Grant.
Port Stanley, Ontario	29.26	743.2	29.89	759.2	61	16.1	88	W	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy.....	M. Payne.
*Quebec, Quebec	29.39	746.5	29.70	754.4	62	16.7	94	W	.....	.....	1	.....	10n	.....	W	0.01	0.3	Cloudy.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.38	746.2	29.83	757.7	57	13.9	94	NW	3	1.3	.....	5ck	0	.....	.....	0.08	2.0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	29.55	750 6	29.60	751.8	61	16.1	96	Calm	0	0	.....	.....	Fog	.....	.....	0.11	2.8	Foggy	Dr. Gove.
St. John, N. B	29.44	747.8	29.60	751.8	62	16.7	100	N	3	1.3	.....	.....	10n	.....	.....	0.48	12.2	Heavy rain.	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.88	758.9	63	17.2	92	S	4	1.8	.....	.....	10ks	.....	W	0.02	0.5	Cloudy.....	K. Stewart.
Stayner, Ontario	29.09	738.9	29.84	757.9	64	17.8	85	Calm	0	0	.....	.....	10n	.....	NW	0.12	3.0	Cloudy.....	R. J. Cole.
Stratford, Ontario	28.63	727.2	29.87	758.7	59.9	15 5	96	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.63	752.6	29.66	753.4	65	18.3	97	E	5	2.2	.....	.....	10n	.....	.....	0.15	3.8	Light rain...	T. C. Hill.
*Toronto, Ontario	29.51	749.5	29.88	758.9	65	18.3	84	NW	3	1.3	.....	.....	10s	.....	W	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.0	16.1	97	SE	.....	.....	.....	Fog	Fog	.....	.....	0.26	6.6	Fog & mist..	Prof. John E. Oram.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

1878.—August 19.

UNITED STATES SERIES.

By authority of the SECRETARY OF WAR.

Furnished by the coöperation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0–10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Low'r 0–10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.58	751.3	29.80	756.9	64	17.8	78	Calm	0	0	.....	5c	0	W	.....	Inap.	Inap.	Fair	
Alpena, Michigan	29.23	742.4	29.85	758.2	65	18.3	78	SW	7	3.1	.....	8cs	0	W	.....	0.03	0.8	Fair	
Atlantic City, New Jersey	29.80	756.9	29.82	757.4	75	23.9	81	W	2	0.9	.....	2ck	Haze	W	Calm	0	0	Fair	
Augusta, Georgia	29.84	757.9	30.02	762.5	82	27.8	79	NW	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Baltimore, Maryland	29.79	756.7	29.83	757.7	76	24.4	73	NW	6	2.7	.....	5k	0	NW	.....	0	0	Fair	
Barnegat, New Jersey	29.81	757.2	29.83	757.7	73	22.8	67	N	8	3.6	.....	2c	0	NW	.....	0	0	Fair	
Bismarck, Dakota	28.18	715.8	30.04	763.0	64	17.8	73	E	2	0.9	.....	5?cs	0	NW	.....	0	0	Clear?	
Boerne, Texas	28.00	726.4	.....	.....	77	25.0	95	SE	7	3.1	.....	2c	8ks	Calm	SE	0.54	13.7	Cloudy	
Boise City, Idaho	27.14	689.3	30.10	764.5	53	11.7	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.60	751.8	29.74	755.4	66	18.9	69	NW	11	4.9	.....	1cs	Haze	N	Calm	0	0	Clear	
Brackettville, Texas	28.86	733.0	29.85	758.2	77	25.0	91	E	5	2.2	.....	10cs	5s	Calm	E	0.15	3.8	Cloudy	
Breckenridge, Minnesota	28.94	735.1	29.90	759.4	62	16.7	100	N	2	0.9	.....	2k	Fog	Calm	Calm	Inap.	Inap.	Foggy	
Brownsville, Texas	29.86	758.4	29.92	760.0	82	27.8	87	E	8	3.6	.....	8cs	0	SE	.....	0.04	1.0	Fair	
Buffalo, New York	29.17	740.9	29.84	757.9	65	18.3	84	N	3	1.3	.....	2k	8s	NW	NW	Inap.	Inap.	Cloudy	
Burkes, Arizona	.....	.....	.....	.....	87	30.6	62	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.53	750.0	29.78	756.4	65	18.3	78	Calm	0	0	.....	5c	0	N	.....	0.77	19.6	Fair	
Cairo, Illinois	29.68	753.9	30.05	763.3	83	28.3	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	63	17.2	78	NW	.....	.....	1	0	1ks	.....	E	Blank	Blank	Clear	
Camp Grant, Arizona	25.13	638.3	29.93	760.2	74	23.3	55	E	.....	.....	4	5c	0	E	.....	0.12	3.0	Fair	
Camp Verde, Arizona	26.68	677.7	30.17	766.3	75	23.9	72	S	.....	.....	1	0	0	.....	.....	0.40	10.2	Clear	
Campo, California	27.37	695.2	29.94	760.5	47	8.3	71	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.89	759.2	29.89	759.2	81	27.2	74	W	9	4.0	.....	5cs	0	W	.....	0	0	Fair	
Cape Henry, Virginia	29.86	758.4	29.88	758.9	78	25.6	82	W	6	2.7	.....	10cs	0	NW	.....	0	0	Cloudy	
Cape Lookout, N. Carolina	29.90	759.4	29.92	760.0	82	27.8	71	NW	18	8.0	.....	.....	8ks	.....	NW	0	0	Cloudy	
Cape May, New Jersey	29.82	757.4	29.84	757.9	74	23.3	90	W	8	3.6	.....	5k	2s	W	W	0	0	Fair	
Castroville, Texas	29.21	741.9	29.88	758.9	78	25.6	95	E	8	3.6	.....	.....	10s	.....	E	0.45	11.4	Cloudy	
Charleston, South Carolina	29.97	761.2	30.03	762.7	82	27.8	83	W	7	3.1	.....	5ck	0	NW	.....	Inap	Inap.	Fair	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	63	17.2	83	Calm	0	0	.....	0	5s	.....	SW	0 23	5.8	Fair	
Chicago, Illinois	29.20	741.7	29.85	758.2	74	23.3	95	NE	4	1.8	.....	.....	Fog	.....	.....	0.04	1.0	Foggy	
Cincinnati, Ohio	29.28	743.7	29.88	758.9	79	26.1	78	W	5	2.2	.....	1k	Sm'e	NW	Calm	0.09	2.3	Clear	
Cleveland, Ohio	29.15	740.1	29.84	757.9	68	20.0	90	SW	5	2.2	.....	.....	10s	.....	W	0	0	Cloudy	
Coleman City, Texas	28.26	717.8	29.85	758.2	77	25.0	65	SE	4	1.8	.....	2ck	5ks	Calm	SE	0	0	Fair	
Columbus, Ohio	29.05	737.9	29.83	757.7	75	23.9	95	W	3	1.3	.....	.....	10ks	.....	NW	0.83	21.1	Cloudy	
Concho, Texas	28.14	714.7	29.75	755.6	73	22.8	85	N	4	1.8	.....	0	5s	.....	S	0	0	Fair	
Corsicana, Texas	29.62	752.3	30.07	763.8	75	23.9	95	SE	3	1.3	.....	2ck	2s	Calm	Calm	0	0	Fair	
Davenport, Iowa	29.31	744.5	29.91	759.7	76	24.4	86	SW	4	1.8	.....	7cs	0	W	.....	0	0	Fair	
Denison, Texas	29.29	744.0	30.06	763.5	77	25.0	86	S	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	64	17.8	83	NW	3	1.3	.....	.....	8s	.....	Calm	0.13	3.3	Cloudy	
Des Moines, Iowa	29.03	737.3	29.85	758.2	80	26.7	77	Calm	.....	.....	0	5ck	0	W	.....	0	0	Fair	
Detroit, Michigan	29.23	742.4	29.87	758.7	67	19.4	79	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Dodge City, Kansas	27.42	696.5	29.59	751.6	75	23.9	81	SW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.20	741.7	29.85	758.4	74	23.3	90	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.26	743.2	29.91	759.7	64	17.8	94	Calm	0	0	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Eagle Pass, Texas	29.24	742.7	29.95	760.7	75	23.9	95	E	8	3.6	.....	.....	10s	.....	Calm	1.00	25.4	Cloudy	
Eastport, Maine	29.51	749.5	29.58	751.3	61	16.1	88	Calm	0	0	.....	.....	Fog	.....	Calm	0.08	2.0	Foggy	
El Paso, Texas	.....	.....	.....	.....	84	28.9	46	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.17	740.9	29.85	758.4	68	20.0	84	S	2	0.9	.....	5cs	5s	.....	.....	0	0	Cloudy	
Escanaba, Michigan	29.26	743.2	29.88	758.9	68	20.0	84	N	7	3.1	.....	5k	0	N	.....	0	0	Fair	
Florence, Arizona	.....	.....	.....	.....	76	24.4	82	Calm	.....	.....	0	0	0	.....	.....	0.10	2.5	Clear	
Fort Craig, New Mexico	25.51	648.7	29.61	752.1	69	20.6	70	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.26	641.6	30.22	767.6	75	23.9	63	SE	3	1.3	.....	.....	10n	.....	SE	Inap.	Inap.	Light rain	
Fort Gibson, Indian Ter	29.52	749.8	30.03	762.7	77	25.0	86	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.80	731.5	30.02	762.5	74	23.3	90	SE	4	1.8	.....	5ck	2s	Calm	Calm	0	0	Fair	
Fort McKavett, Texas	27.82	706.6	29.65	753.1	76	24.4	86	SE	5	2.2	.....	.....	10s	.....	SE	0.15	3.8	Cloudy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.85	732.8	29.90	759.4	77	25.0	77	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.31	719.1	29.81	757.2	75	23.9	95	E	1	0.4	.....	.....	10ks	.....	Calm	0.10	2.5	Cloudy	
Galveston, Texas	29.99	761.7	30.03	762.7	83	28.3	83	SE	9	4.0	.....	5cs	5ks	Calm	SE	0.27	6.9	Fair	
Graham, Texas	29.01	736.6	30.01	762.2	76	24.4	86	Calm	0	0	.....	2ck	0	NW	.....	0	0	Fair	
Grand Haven, Michigan	29.26	743.2	29.87	758.7	72	22.2	67	N	3	1.3	.....	5k	2s	N	Calm	0	0	Fair	
Indianapolis, Indiana	29.17	740.9	29.90	759.4	77	25.0	82	SW	3	1.3	.....	2k	0	Calm	.....	0	0	Clear	
Indianola, Texas	29.98	761.5	30.01	762.2	84	28.9	83	E	12	5.4	.....	2cs	0	Calm	.....	0.05	1.3	Fair	
Jacksboro, Texas	28.94	735.1	30.02	762.5	76	24.4	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.07	763.8	30.09	764.3	85	29.4	72	S	2	0.9	.....	0	0	.....	.....	0.41	10.4	Clear	
Keokuk, Iowa	29.30	744.2	29.87	758.7	82	27.8	75	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Key West, Florida	30.04	763.0	30.07	763.8	83	28.3	79	SE	3	1.3	.....	8ck;k	1ks	Calm;SE	Calm	0.03	0.8	Fair	
Kittyhawk, North Carolina	29.84	757.9	29.87	758.7	79	26.1	74	SW	9	4.0	.....	5c	0	NW	.....	0	0	Fair	
Knoxville, Tennessee	29.10	739.1	30.06	763.5	78	25.6	82	Calm	0	0	.....	1ck	0	NW	.....	0	0	Clear	
La Crosse, Wisconsin	29.17	740.9	29.87	758.7	72	22.2	95	N	1	0.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	71	21.7	66	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Laredo, Texas	29.50	749.3	29.83	757.7	78	25.6	91	NE	4	1.8	.....	10k	0	Calm	.....	0.06	1.5	Cloudy	
Lead City, Dakota	24.84	630.9	30.11	764.8	62	16.7	77	S	8	3.6	.....	.....	10s	.....	S	0.11	2.8	Cloudy	
Leavenworth, Kansas	29.11	739.4	29.90	759.4	76	24.4	86	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.45	748.0	29.78	756.4	62	16.7	85	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.42	747.3	29.95	760.7	82	27.8	71	W	12	5.4	.....	0	5ks	.....	NW	0	0	Fair	
Lynchburg, Virginia	29.24	742.7	29.89	759.2	75	23.9	90	W	4	1.8	.....	.....	10n	.....	Calm	0.40	10.2	Light rain	
Marquette, Michigan	29.20	741.7	29.85	758.4	69	20.6	80	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.40	721.3	30.08	764.0	77	25.0	90	SE	3	1.3	.....	.....	10s	.....	SE	0.23	5.8	Cloudy	
Memphis, Tennessee	29.78	756.4	30.08	764.0	84	28.9	70	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.20	741.7	29.89	759.2	70	21.1	85	N	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	
Mobile, Alabama	30.08	764.0	30.12	765.0	79.5	26.4	89	S	4	1.8	.....	8c	0	Calm	.....	0	0	Fair	
Montgomery, Alabama	29.87	758.7	30.09	764.3	80	26.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.87	733.3	29.86	758.4	73	22.8	90	SW	4	1.8	.....	.....	10s	.....	SW	0 39	9.9	Cloudy	
Mt. Washington, N. H.	23.62	599.9	29.98	761.5	41	5.0	100	NW	25	11.2	.....	.....	Fog	.....	NW	0.37	9.4	Foggy	
Nashville, Tennessee	29.55	750.6	30.05	763.3	83	28.3	75	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.70	754.4	29.81	757.2	72	22.2	62	NW	6	2.7	.....	2c	0	W	.....	0	0	Clear	
New London, Connecticut	29.74	755.4	29.79	756.7	73	22.8	63	W	4	1.8	.....	1c	1s	NW	W	0.08	2.0	Clear	
New Orleans, Louisiana	30.05	763.3	30.10	764.5	83	28.3	75	E	2	0.9	.....	4k	0	Calm	.....	Inap.	Inap.	Fair	
Newport, Rhode Island	29.71	754.6	29.76	755.9	68	20.0	70	NW	8	3.6	.....	1c	0	NW	.....	0.06	1.5	Clear	
New York, New York	29.68	753.9	29.84	757.9	71	21.7	62	NW	4	1.8	.....	5cs	Haze	W	Calm	0	0	Fair	
Norfolk, Virginia	29.82	757.4	29.87	758.7	78	25.6	86	N	6	2.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
North Platte, Nebraska	27.08	687.8	29.53	750.0	69	20.6	92	NE	3	1.3	.....	2k	8s	N	W	0	0	Cloudy	
Olympia, Washington Ter.	29.87	758.7	29.91	759.7	56	13.2	87	SW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Omaha, Nebraska	28.75	730.2	29.76	755.9	77	25.0	82	S	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Oswego, New York	29.54	750.3	29.85	758.2	67	19.4	84	Calm	0	0	.....	.....	10s	.....	.....	0	0	Cloudy	
Pembina, Dakota	29.19	741.4	30.01	762.2	48	8.9	100	NW	4	1.8	.....	.....	Fog	.....	.....	0	0	Dense fog	
Philadelphia, Pennsylvania	29.78	756.4	29.83	757.7	73	22.8	67	N	4	1.8	.....	5k	Sm'e	W	Calm	0	0	Fair	
Phœnix, Arizona	28.57	725.7	.....	.....	89	31.7	80	NE	.....	.....	1	8k	0	Calm	.....	Inap.	Inap.	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.10	459.7	30.31	769.9	37	2.8	53	W	13	5.8	.....	0	5s	.....	W	0.02	0.5	Fair	
Pioche, Nevada	24.09	611.9	29.86	758.4	60	15.6	76	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.18	738.6	29.85	758.2	71	21.7	80	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Port Huron, Michigan	29.23	742.4	29.86	758.4	66	18.9	79	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Portland, Maine	29.62	752.3	29.66	753.4	65	18.3	73	W	8	3.6	.....	1k	0	NW	.....	0.18	4.6	Clear	
Portland, Oregon	29.85	758.2	29.95	760.7	59	15.0	88	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.77	629.2	30.13	765.3	61	16.1	88	Calm	0	0	.....	0	0	.....	.....	0.80	20.3	Clear	
Pilot Point, Texas	29.32	744.7	30.11	764.8	75	23.9	90	SE	4	1.8	.....	0	0	.....	.....	0	0	Hazy	
Punta Rassa, Florida	30.07	763.8	30.09	764.3	86	30.0	76	SE	2	0.9	.....	5ck	2s	SW	Calm	0	0	Fair	
Red Bluff, California	29.40	746.7	29.74	755.4	68	20.0	51	NW	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.74	755.4	29.95	760.7	82	27.8	79	E	9	4.0	.....	.....	10s	.....	SE	0.96	24.4	Threatening	
Rochester, New York	29.26	743.2	29.85	758.2	64	17.8	83	W	6	2.7	.....	.....	10s	.....	NW	0	0	Cloudy	
Roseburg, Oregon	29.32	744.7	29.88	758.9	54	12.2	90	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Sacramento, California	29.66	753.4	29.74	755.4	60	15.6	71	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.45	748.0	29.99	761.7	80	26.7	78	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	30.07	763.8	30.09	764.3	79	26.1	87	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.04	737.6	29.83	757.7	70	21.1	95	Calm	0	0	.....	.....	Fog	.....	.....	0.25	6.3	Clear	
Salt Lake City, Utah	25.62	650.7	29.95	760.7	67	19.4	55	S	4	1.8	.....	0	0	.....	.....	0	0	Foggy	
San Antonio, Texas	29.32	744.7	29.88	758.9	78	25.6	91	NE	6	2.7	.....	2c	5s	Calm	NE	1.08	27.4	Cloudy	
San Diego, California	29.74	755.4	29.81	757.2	64	17.8	83	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.25	742.9	29.89	759.2	71	21.7	85	SE	4	1.8	.....	.....	10ks	.....	S	0.45	11.4	Cloudy	
Sandy Hook, New Jersey	29.80	756.9	29.83	757.7	70	21.1	66	NE	12	5.4	.....	5c	0	NE	.....	0	0	Fair	
San Francisco, California	29.75	755.6	29.82	757.4	53	11.7	93	SW	6	2.7	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.40	594.4	29.94	760.5	61	16.1	45	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.95	760.7	30.04	763.0	84	28.9	79	W	7	3.1	.....	1c	Haze	Calm	Calm	0.02	0.5	Clear	
Shreveport, Louisiana	29.88	758.9	30 09	764.3	81	27.2	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.32	617.7	.....	.....	67	19.4	68	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	29.93	760.2	29.96	761.0	83	28.3	75	W	7	3.1	.....	5c	0	NW	.....	0.75	19.1	Fair	
Springfield, Massachusetts	29.40	751.8	29.72	754.9	68	20.0	65	N	1	0.4	.....	8c	0	N	.....	0	0	Fair	
Stockton, Texas	26.99	685.5	29.99	761.7	69	20.6	56	Calm	0	0	.....	1k	8s	Calm	Calm	0	0	Cloudy	
Thatcher's Island, Mass	29.74	755.4	29.79	756.7	64	17.8	73	NW	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.20	741.7	29.84	757.9	72	22.2	85	N	4	1.8	.....	.....	10s	.....	S	0	0	Cloudy	
Tucson, Arizona	27.14	689.3	29.69	754.1	82	27.8	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	30.00	762.0	30.03	762.7	84	28.9	79	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.52	749.8	.....	.....	58	14.4	88	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	29.08	738.6	29 87	758.7	76	24.4	95	E	3	1.3	.....	2c	5ks	Calm	SE	0.37	9.4	Cloudy	
Vicksburg, Mississippi	29.89	759.2	30.14	765.5	82	27.8	87	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.28	616.7	29.76	755.9	54	12.2	74	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.42	747.3	29.78	756.4	60	15.6	70	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.76	755.9	29.87	758.7	75	23.9	86	NW	8	3.6	.....	2ck	2ks	W	W	Inap.	Inap.	Fair	
Wickenburg, Arizona	29.86	758.4	29.91	760.5	84	28.9	71	W	10	4.5	.....	5ck	2s	NW	Calm	0	0	Fair	
Wilmington, N. Carolina	25.62	650.7	29.98	761.5	51	10.6	59	NE	10	4.5	.....	0	Haze	.....	Calm	0	0	Clear	
Winnemucca, Nevada	29.08	753.9	29.74	755.4	69	20.6	70	NW	8	3.6	.....	0	0	.....	.....	0.21	5.3	Clear	
Wood's Holl, Mass	28.63	727.2	29.86	758.4	70	21.1	92	NE	8	3.6	.....	.....	10s	.....	NE	0	0	Cloudy	
Yankton, Dakota	29.52	749.8	29.67	753.6	79	26.1	69	NE	2	0.9	.....	0	2s	.....	Calm	0	0	Fair	
Sub-Series.																			
St. Paul's Island, Alaska	30.00	762.0	30.05	763.3	47.0	8.3	89	W	6	2.7	.....	4ck	2s	S	S	0.20	5.1	Foggy	
York Factory, B. A.	30.04	763.0	30.06	763.5	83	28.3	83	SE	2.9	1.1	.....	0	0	.....	.....	0	0	Clear	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.96	761.0	29 99	761.7	82	27.8	79	N	4.8	2.1	.....	2c	0	.....	.....	0	0	.....	Chas. Hasselbrink.
Santiago de Cuba, W. I.	.....	.....	.....	.....	81	27.2	87	E	3	1.3	.....	2c	5k	E	.....	0	0	Clear	Robert Mason.
St. Thomas	30.09	764.3	30.10	764.5	80	26.7	87	Calm	0	0	.....	2c	2s	Calm	.....	0	0	.....	G. O. Gellich.
Kingston, Jamaica, W. I.	29.90	759.4	29.98	761.5	84	28.9	.....	E	6.9	2.8	.....	.....	.....	.....	.....	0	0	Fair	James Gall.
Navassa, W. I.	30.04	763.0	30.05	763.3	80	26.7	87	E	.....	.....	S	4c	5k	E	.....	0.770	19.56	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	25.28	642.1	.....	.....	66.7	19.2	75	NE	1	0.4	.....	2cs	1ks	.....	.....	0	0	.....	C. J. Hering
Medellin, Colombia, S. A.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,560 (?) ft., or 1,085.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,208 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.5 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Up'er. From—	Clouds. Direction. Low'r. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla	30.26	768.6	82	27.8	82	27.8	88	NW	3	1.3	.....	.....	2	.....	NE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	29.79‡	756.7‡	.....	.....	69	20.6	70	W	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	30.02*	762.5*	76	24.4	76.5	24.7	88	NNE	.....	.....	2	.....	4k;8	.....	NE	0	0	.....	.....	Fair	
Adams. Apia, Samoan Islands	30.07	763.8	76	24.4	75	23.9	100	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Pleasant	
Alliance, N. 43° 19′, E. 7° 00′	29.85‡	758.2‡	.....	.....	79	26.1	62	S	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ashuelot. Kobe, Japan	30.07	763.8	82	27.8	81	27.2	87	NNW	.....	.....	1	.....	5	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Alaska. S. 35° 02′, W. 51° 47′	30.16	766.1	66	18.9	59	15.0	82	WNW	.....	.....	4	.....	8	.....	NW	0	0	Long	WNW	Hazy	
Canonicus, New Orleans, La	30.14	765.5	56	13.3	81	27.2	87	E	.....	.....	1	.....	6	.....	.....	.....	.....	.....	.....	Cloudy	
Colorado. New York, N. Y.	29.80‡	756.9‡	.....	.....	72	22.2	62	N	8	3.6	.....	.....	8	.....	NW	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.72‡	754.9‡	.....	.....	65	18.3	100	NE	.....	.....	3	.....	10	.....	NE	.....	.....	.....	.....	Light mist	
Despatch, Constantinople, Turkey	29.88‡	758.9‡	.....	.....	76	24.4	77	NE	.....	.....	5	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va	29 99	761.7	78	25.6	78	25.6	86	NW	6	2.7	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Gettysburg Toulon, France	29.82‡	757.4‡	.....	.....	80	26.7	??	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear	
Hartford, Rio de Janeiro, Brazil	30.23	767.8	.....	.....	64	17.8	78	NW	5.4	2.4	.....	.....	5	.....	NNW	0	0	.....	.....	Fair	
Marion, Barcelona, Spain	29.97	761.2	81	27.2	83	28.3	63	SSW	.....	.....	5	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Michigan, Milwaukee, Wisconsin	29.47	748.5	76	24.4	72	22.2	76	NW	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Cloudy	
Monocacy. Yokohama, Japan	30.02‡	762.5‡	.....	.....	78	25.6	82	SE	.....	.....	1–2	.....	5	.....	SE	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.	30.22	767.6	84	28.9	84	28.9	75	W	6	2.7	.....	.....	2	.....	NW	0.25	6.3	.....	.....	Clear	
Onward, Callao, Peru	30.10‡	764.5‡	.....	.....	62	16.7	86	S	.....	.....	1	.....	8	.....	.....	.....	.....	Long	W	Misty	
Passaic, Washington, D. C.	.....	.....	.....	.....	79	26.1	95	NE	.....	.....	2	.....	5	.....	SE	0	0	.....	.....	Fair	
Palos, Tientsin, China	29.88	758.9	80	26.7	76	24.4	86	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Plymouth. New York, N. Y.	30.05	763.3	75	23.9	69	20.6	95	NNW	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Clear	
Ranger. Hong-Kong, China	30.00	762.0	82	27.8	86	30.0	97	SSE	.....	.....	1	.....	5	.....	Calm	.....	.....	.....	.....	Fair	
Rio Bravo, Brownsville, Texas	29.89	759.2	83	28.3	83	28.3	91	Calm	.....	.....	.....	.....	8	.....	Calm	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md.	29.79‡	756.7‡	.....	.....	77	25.0	82	NW	.....	.....	1	.....	8	.....	NNW	0	0	.....	.....	Fair	
St. Louis, League Island, Pa	29.82	757.4	74	23.3	74	23.3	76	NE	6	2.7	.....	.....	8	.....	NW	0	0	.....	.....	Cloudy	
Supply, Havre, France	29.80	756.9	67	19.4	67	19.4	84	SE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	29.73‡	755.1‡	.....	.....	66	18.9	78	NW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Trenton, Cherbourg, France	29.74‡	755.4‡	.....	.....	64	17.8	89	NE	.....	.....	3–4	.....	10	.....	N;E	1.0	25.	.....	.....	Overcast	
Tuscarora, Acapulco, Mexico	29.72	754.9	75	23.9	76	24.4	95	SW	.....	.....	0–1	.....	10	.....	Calm	9.18	233.2	.....	.....	Cloudy	
Vandalia. Villafranca, France	29.88‡	758.9‡	.....	.....	82	27.8	63	SSW	.....	.....	1	.....	2	.....	WSW	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	29.74‡	755.4‡	.....	.....	67	19.4	69	NW	12	5.4	.....	.....	2	.....	NW	0	0	.....	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. Alaska																			
S. S. China, N. 39° 50′, W. 146° 14′		30.37*	771.4*	61	16.1	100	N			5		7		N	0	Mod'ate	N	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		29.99†	761.7†				Calm			0		10						Fair	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.72	754.9	83	28.3	88	SW	4	1.8			7		SW	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 11° 37′, W. 87° 54′		29.98†	761.5†	80	26.7	96	ENE			3		8		SE	Blank	Small	E	D clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.04†	763.0†	56	13.3	100	Calm			0		3		Calm	0			D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. Alaska																			
S. S. China, N. 39° 50′, W. 146° 14′		30.37*	771.4*	61	16.1	100	N			5		7		N	0	Mod'ate	N	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Nanaimo, B. C.		29.99†	761.7†				Calm			0		10						Fair	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.72	754.9	83	28.3	88	SW	4	1.8			7		SW	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 11° 37′, W. 87° 54′		29.98†	761.5†	80	26.7	96	ENE			3		8		SE	Blank	Small	E	D clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.04†	763.0†	56	13.3	100	Calm			0		3		Calm	0			D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 43° 55′, W. 46° 37′		30.03*	762.7*	61	16.1	??	SW			2		Fog		Calm	0	Mod'ate	NE	Foggy	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. Belgic, Yokohoma, Japan		29.95*	760.7*	79	26.1	86	Var.			2		k		SE		Smooth	SE	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 45′, W. 130° 50′		29.92†	760.0†	58	14.4	88	N			4		8		N	Blank	Heavy	NW	Squally	Capt. W. H. Kidley.
S. S. Oceanic, N. 42° 18′, E. 156° 22′		29.97	761.2	60	15.6	94	ENE			5		5		NE		2	NE.	D. clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL.		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Upper.	Lower.	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, Bremmerhaven							NNW			3								Fine	Capt. T. H. Lamke.
S. S. Braunschweig, N. 50° 15′ W. 15° 34′		29.51	749.5	62	16.7	88	SW			3		5		S	2 hours	5	SE	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

1878—August 19.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Liverpool		29.96*	761.0*	70	21.1	90	SE			1		4		WNW	0			Clearing..	Captain Sargent.
S. S. Ohio. Philadelphia, Pa		29.82	757.4	75	23.9	90	WNW			1		5		WNW	0			Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.95†	760.7†	76	24.4	100	NE			2		9		NE	0			Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.																			
Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
																			Capt. Randle.
S. S. Nederland																			Capt. Jackson.
S. S. Switzerland, N. 49° 38′ W. 9° 37′		29.92*	760.0*				* S	8	3.6			3		SSE		Slight	E	D. clouds	Capt. Nichols.
S. S. Vaderland																			

*Aneroid; regulated to standard at Antwerp.

ALLAN LINE MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)																			
Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, N. 40° 05′, W. 73° 50′		29.78	756.4	74	23.3	50	NNE	4	1.8		2c		NW		0	Swell	S	Clear	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		29.89*	759.2*	41.8	5.4		Calm			0		10s						Raining	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p. hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 20, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.02	762.4	83.8	28.8	65	NNW	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.94	760.5	84.6	29.2	68	NNE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Tourilhere.
La Calle	.....	.....	29.98	761.4	86.0	30.0	59	NNW	.....	.....	3	.....	4	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.99	761.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.04	763.0	89.6	32.0	.....	ENE	.....	.....	3	.....	9	.....	.....	0	0	Covered	Gau.
Saida	.....	.....	30.10	764.5	102.2	39.0	24	NE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Herbin.
Tebessa	.....	.....	29.99	761 8	93.6	33.9	.....	N	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.13	765.2	91.4	33.0	30	SE	.....	.....	3	.....	4	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.08	763.9	101.5	38.6	19	W	.....	.....	1	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.98	761.5	105.8	41.0	22	ENE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.22	742.3	29.75	755.7	70.3	21.3	75	SW	.....	.....	2	.....	10	.....	.....	0.236	6.0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	28.92	734.6	29.66	753.4	68.5	20.3	80	W	.....	.....	1	.....	9	.....	.....	0.177	4.5	.....	Dr. Wierzbiski
Eperies	28.85	732.7	29.69	754.1	67.3	19.6	100	Calm	.....	.....	0	.....	9k	.....	S	0.593	15.05	.....	Julius Mikoiik.
Gratz	28.55	725.1	29.74	755.4	73.4	23.0	70	Calm	.....	.....	0	.....	7	.....	.....	0.063	1.60	.....	Andreas Rospini.
Hermannstadt	28.28	718.3	29.63	752.5	74.7	23.7	67	WNW	.....	.....	4	.....	10	.....	.....	0.959	24.35	Thunder-storm	Prof. Reissenberg
Kremsmünster	28.47	723.1	29.76	756.0	66.9	19.4	70	W	.....	.....	3	.....	8k	.....	.....	0.079	2.0	.....	Prof. C. Wagner
Lemberg	28.63	727.3	29.56	750.9	71.2	21.8	74	S	.....	.....	1	.....	8	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.61	752.1	29.72	754.8	78.8	26.0	70	ESE	.....	.....	1	.....	10ns	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.24	742.6	29.68	753.8	73.4	23.0	64	N	.....	.....	3	.....	8	.....	.....	0.339	8.6	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste	29.65	753.1	29.75	755.7	78.3	25.7	49	E	.....	.....	1	.....	9	.....	.....	0.976	24.8	Thunder-storm	Karl Stancel.
Vienna	29.06	738.1	29.74	755.5	74.3	23.5	52	W	.....	.....	3	.....	8	.....	.....	0.087	2.2	.....	F. Busin.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.39	721.1	29.86	758.5	63.1	17.3	63	NNW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.72	754.8	29.91	759.8	63.7	17.7	61	NNE	.....	.....	2	.....	10	.....	ENE;N	0	0	.....	Royal Observatory
Furnes	29.94	760.5	29.97	761.1	63.7	17.6	67	N	.....	.....	2	.....	8	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.81	757.1	29.93	760.3	65.8	18.8	70	NW	.....	.....	2	.....	6	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

1878.—August 20.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Force 0—10.	Clouds. Amount. Upper 0—10.	Clouds. Amount. Lower 0—10.	Clouds. Direction. Upper, From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.93	760.2	30.03	762.7	55.1	12.8	.....	E	9	4.0	.....	.....	2	.....	.....	0	0	Blue sky.....	W. Boswell.
Ardrossan	29.95	760.7	29.97	761.2	64	17.8	.....	SE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	29.93	760.2	60.0	15.6	.....	ESE	7	3.1	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Cail.
Bidston, (Liverpool Obs.)	.....	.....	29.94	760 5	66.0	18.9	.....	ESE	13	5.8	.....	.....	7	.....	.....	.....	.....	D. clouds.....	John Hartnup.
Birr Castle, (Parsonstown)	29.65	753.1	29.84	757.9	64.2	17.9	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Drizzling.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....	0	0	D. clouds.....	Thomas Mackereth.
Bradford, Yorkshire	29.66	751.8	30.00	762.0	62.6	17.0	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	87	30.6	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. W. Roberts, A. H. Todd, [H.C.
Cambridge, Observatory	.....	.....	29.96	761.0	66.0	18.9	.....	NE	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast.....	John McLaren.
Cardington	.....	.....	29.98	761.5	67.0	19 4	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Lt. W. G. Morris, R. E.
Chatham, School M. E	29.82	757.4	29.95	760.7	64.2	17.9	.....	NE	.....	.....	3	.....	9	.....	.....	.....	.....	Drizzling.....	Alexander Watt.
Dartmoor	28 42	721.9	29.88	758.9	56.0	13.3	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Donaghadee	29.92	760.0	29.95	760 7	60	15.6	.....	SSE	.....	.....	3	.....	4	.....	.....	.....	.....	½ clouded.....	J. Costello.
Dover	29.93	760.2	29.96	761 0	64	17.8	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Gloomy.....	Thomas Mackereth.
Eccles, (near Manchester)	.....	.....	29.95	760.7	63 0	17.2	.....	SE	3.6	1.6	.....	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Falmouth, Observatory	29.65	753.1	29.87	758.7	63.3	17.4	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H. C.
Fort Napier, (Natal)	27.48	698.0	29.78	756.4	70.8	21.6	.....	E	.....	.....	2	.....	5	.....	.....	.....	.....	Drizzling.....	
Free Town, (Sierra Leone)	29.83	757.7	30.03	763.5	80	26.7	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Galway, Queen's College	.....	.....	29.82	757.4	65	18.3	.....	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	Very fine.....	Corpl. Wm. Allen, A.H.C.
Gibraltar, (Mediterranean)	29.92	760.0	29.97	761.2	79.3	26.3	.....	W	.....	.....	5	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean.
Glasgow, Observatory	29.77	756.1	29.98	761.5	59.9	15.5	.....	NNE	.....	.....	4	.....	1	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Great Yarmouth	29.97	761.2	29.98	761.5	63	17.2	.....	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Greenwich, Royal Obs'y	29.79	756.7	29.96	761.0	64.5	18.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	Dr. S. E. Hoskens, F.R.S.
Guernsey	29.66	753.4	29.88	758.9	61	16.1	.....	SE	.....	.....	1	.....	3c	.....	.....	Blank	Blank	Fine	M. P. Moyle.
Helston	.....	.....	29.92	760.0	66	18.9	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Holyhead	29.89	759.2	29.94	760.5	63	17.2	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	J. Fisher.
Jersey	29.64	752.8	29.93	760.2	59.0	15.0	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
Kew, Observatory	.....	.....	29.95	760.7	65.0	18.3	.....	ESE	10	4.5	.....	.....	10	.....	.....	.....	.....	Drizzling.....	George Mitchell.
Kingstown	29.90	759.4	29.93	760.2	62	16.7	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J Harrison, F.G.S.
Leicester, Museum	.....	.....	29.96	761.0	63.3	17.4	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Malta, (Mediterranean)	29.73	755.4	29.80	756.9	91.6	33.1	.....	NW	.....	.....	1	.....	0	.....	.....	.....	.....	¼ clouded..	W. D. Penny.
Nairn	29.93	760.2	30.00	762.0	58	14.4	.....	E	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nassau, (Bahamas)	.....	.....	30.02	762.5	85.8	29.9	.....	SW	.....	.....	0	.....	5	.....	.....	.....	.....	Overcast.....	E. J. Lowe, F. R. S.
Nottingham, Observatory	29.80	756.9	29.99	761.7	67.2	19.6	.....	ENE	.....	.....	2	.....	10k;d	.....	NE	0	0	D. clouds.....	Rev. Stephen Whitty.
Oscott, St. Mary's College	29.44	747.8	29.95	760.7	65.0	18.3	.....	E	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast.....	H.E. Bellamy.
Oxford, Radcliffe Obs'y	.....	.....	29.95	760.7	65	18.3	.....	E	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John Merrifield
Plymouth	29.79	756.7	29.86	758.4	61.4	16.3	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Showery.....	W. Kennedy.
Roche's Point	29.81	757.2	29.85	758.2	65	18.3	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	D. clouds.....	John C. Walker.
Saint Ann's Head	29.73	755.1	29.88	758.9	60	15.6	.....	ESE	.....	.....	4	.....	7	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Sandwick Manse, (Orkneys	.....	.....	30.05	763.3	55	12.8	.....	NE	10	4.5	.....	.....	10	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Scutari, Cemetery, (Turkey	.....	.....	29.69	754.1	84.8	29.3	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Overcast.....	W. F. Cooper.
Sheffield	29.74	755.4	30.02	762.5	64.1	17.8	.....	NNE	.....	.....	1	.....	7	.....	.....	0	0	D. clouds.....	C. Edith Redford.
Silloth Rectory	29.93	760.2	29.96	761.0	65.6	18.7	59	SE	.....	.....	2	.....	3	.....	.....	0.025	0.63	Hazy.....	Rev. S. J. Perry.
Stonyhurst, Observatory	29.58	751.3	29.98	761.5	64.1	17.8	.....	ENE	.....	.....	1	.....	6	.....	.....	.....	.....	.....	John Sutherland.
Stornoway, Lewis C., (Hebr.)	29.92	760.0	29.95	760 7	58	14.4	.....	E	.....	.....	4	.....	0	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. clouds.....	John Trotter.
Thurso	.....	.....	30.04	763.0	59	15.0	.....	ENE	.....	.....	2	.....	4	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Truro, Royal Institution	.....	.....	29.88	758.9	68	20.0	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds..	The Staff.
Valencia, Observatory	.....	.....	29.85	758.2	66.3	19.1	.....	SSE	.....	.....	5	.....	7	.....	.....	.....	.....	.....	
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	30.12	765.0	53	11.7	57	W	.....	.....	3	.....	5k	.....	.....	0.45	11.4	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.00	762.0	30.19	766.8	72.3	22.4	66	ESE	18.5	8.3	.....	0	4	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.39	771.9	30.48	774.2	45.0	7.2	92	NE	6	2.7	.....	.....	0	.....	.....	0	0	Heavy dew..	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9.	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 47° 10', W. 50° 40'	5	Con'd	Drizzling.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Qualle
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller,	.....	.....	.....	Capt. Alex. Simpson, R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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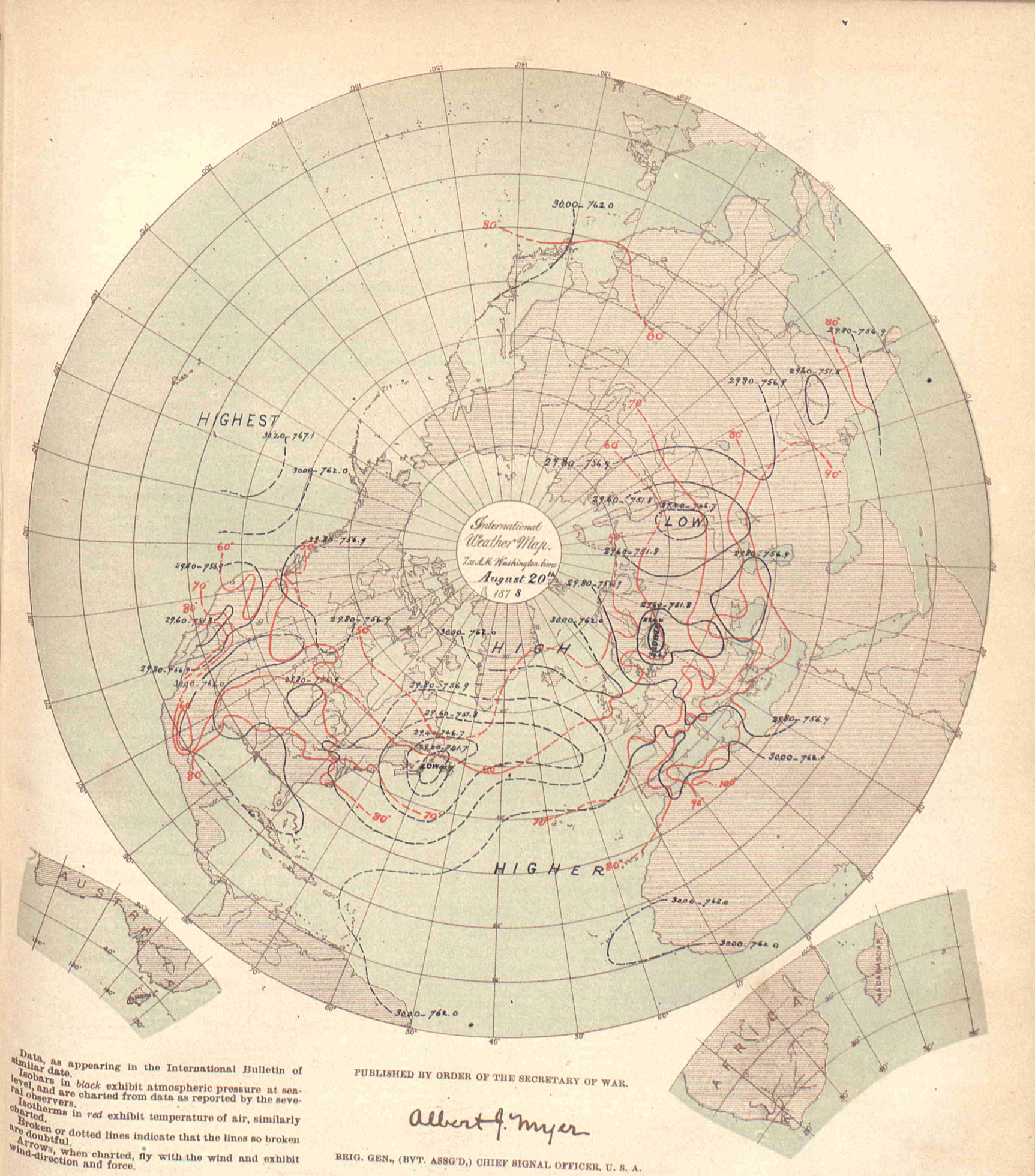
Note.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.28	667.5	.....	.....	68.0	20.0	91	SE	.....	.....	3	4c	1s	.....	.....	Inap.	Inap.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.56	750.9	29.61	752.1	63.3	17.4	45	NW	.....	.....	6	.....	8	.....	.....	.....	.....	.....	
Fanöe	29.72	754.8	29.74	755.3	62.6	17.0	49	NW	.....	.....	6	.....	3	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.83	757.7	29.87	758.8	44.8	7.1	88	S	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	
Stykkisholm, (Iceland)	29.91	759.7	29.95	760.8	56.5	13.6	80	S	.....	.....	7	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	30.08	764.0	30.11	764.9	51.4	10.8	58	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	.....	
Vestervig	29.54	750.3	29.71	754.6	60.4	15.8	68	N	.....	.....	2	.....	2	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.40	746.8	29.95	760.8	68.4	20 2	74	SW	.....	.....	1	.....	10	.....	.....	0.322	8.20	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.85	758.1	29.93	760 1	80.6	27	37	NW	.....	.....	2	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.37	745.9	29.91	759.6	69.1	20.6	68	N	.....	.....	1	.....	8kn	.....	NW	0.453	11.5	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.67	753.6	29.95	760.6	66 7	19.3	67	E	.....	.....	1	.....	10	W	E	0.059	1.50	Covered	Frere Eugene Marie, Director.
Besançon	29.09	738.8	29.99	761.7	63.0	17.2	88	S	.....	.....	4	.....	10	.....	S	0	0	Covered	Normal School.
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.46	748.2	30.00	761.9	66.2	19	84	W	.....	.....	2	.....	5kn	.....	W	0	0	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.67	753 6	29.91	759.8	69.8	21.0	73	W	.....	.....	4	.....	7	.....	W	0.345	8.75	.....	The Staff.
Carcassonne, Normal School	29.58	751.4	29.98	761.4	81.3	27.4	35	W	.....	.....	2	.....	0	.....	.....	0	0	Clear	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.36	745.7	29.92	759.9	62.2	16.8	100	N	.....	.....	2	.....	10	.....	S	0.35	9.	Light rain	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.59	751.5	29.90	759.4	68.4	20.2	74	NE	.....	.....	1	.....	8	SW	SW	0.394	10.0	Very cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.63	727.1	29.93	760.1	72.9	22.7	42	W	.....	.....	1	.....	.....	.....	W	0	0	.....	Alluard, Director.
Commercy, Normal School	29.07	738.3	29.92	760.0	68.0	20	67	NW	.....	.....	1	.....	5kn	.....	NW	0.67	17.	Cloudy	Dr. Coulet, Director
Commune de Gréasque*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.76	755.8	29.97	761.2	62.6	17.0	98	SW	.....	.....	3	.....	10	.....	SW	0.169	4.3	Covered	Mouillot, Director.
Le Mans, Normal School	29.62	752 4	29.93	760.1	63.5	17.5	92	SW	.....	.....	1	.....	8	.....	SW	0.571	14.50	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	29.11	749.4	30.00	762.1	67.3	19.6	73	SW	.....	.....	4	.....	5	.....	SW	0.268	6 80	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.88	759.0	29.98	761.5	68.0	20.0	71	W	.....	.....	5	.....	5	.....	W	0.315	8.0	⅜ Covered	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	75.2	24	90	NW	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Galzin, Director.
Mirecourt, Normal School	28.81	731.7	29.82	757.3	67.6	19.8	83	SW	.....	.....	1	.....	10kn	.....	NW	0.28	7.	Raining	M. Barbier, Director.
Nismes, Normal School	29.85	758.3	30.05	763.2	81.0	27.2	41	N	.....	.....	6	.....	5	.....	SW	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.90	734.0	29.95	760.8	78.8	26	42	SE	.....	.....	4	.....	.....	SE	SE	0	0	.....	M. Cantier.
Puy de Dome (Summit)	25.19	639.8	.....	.....	51.3	10.7	74	W	.....	.....	2	.....	.....	.....	.....	0	0	.....	Alluard, Director.
Rochefort, Naval Obs'y	30.00	761.9	30.03	762.7	70.2	21.2	80	SW	.....	.....	5	.....	8	.....	SW	0.31	8.	¾ Covered	M. Giguel, Director.
Rouen, Normal School	29.85	758.1	29.93	760.3	64.0	17.8	78	N	.....	.....	1	.....	10	.....	NE	0.181	4.6	Covered	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.90	759.4	62.8	17.1	97	SSE	.....	.....	1	.....	10	.....	SSE	0.025	0.63	Covered	M. H. Hercouet
Tarbes, Normal School	29.01	736.9	30.01	762.2	73.4	23	66	E	.....	.....	3	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.88	759.0	29.91	759.7	82.8	28.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.79	20.	.....	L'Abbé Marchès.
Lyons	.....	.....	30.04	763.0	89.4	31.9	43	.....	.....	.....	.....	.....	0	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.89	759.3	80 1	26.7	26	WNW	.....	.....	3-4	.....	0	.....	.....	0	0	Clear	The Staff.
Mont-Louis	24.93	633.1	30.24	768.1	70.5	21.4	30	ESE	11.2	5.00	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.79	756.7	77.4	25.2	73	E	.....	.....	4	.....	1	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.65	753.0	29.92	760.0	61.3	16.3	95	Calm	.....	.....	0	.....	10	.....	.....	0.142	3.6	.....	Marié Davy, Director
Perpignan	.....	.....	29.97	761.2	83.5	28.6	41	SE	9.3	4.17	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Bayhac.
Pic du Midi, (Plantade,) H. P.	22.65	575.3	.....	.....	57.2	14 0	.....	SW	.....	.....	1	.....	4	.....	.....	0	0	Fair	Gen'l de Nansou y
Saint Maur, (near Paris)	29.76	755.9	29.93	760.1	63.7	17.6	87	NNW	.....	.....	1	.....	10	.....	NNE	0.059	1.5	Light rain	E. Renou.
Toulouse, Observatory	29.35	745.4	30.07	763.8	73.6	23.1	40	NW	.....	.....	2	.....	5	.....	.....	0	0	.....	The Staff.
Tours	29.85	758.1	30.04	763.1	68.4	20.2	65	W	.....	.....	1	.....	8	.....	W	0.142	3.6	.....	C. Marquet.
Versailles	.....	.....	29.94	760.4	62.6	17.0	78	NE	.....	.....	1	.....	10	.....	.....	0.078	1.98	Raining	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.84	758.0	29.87	758.6	78.6	25.9	93	ENE	5.8	2.6	.....	.....	1k	.....	.....	0.047	1.2	Clear	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.93	734.7	29.74	755.3	64.4	18.0	75	NW	.....	.....	1	.....	4	NW	.....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.59	751.5	29.75	755.7	67.3	19.6	44	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.22	742.2	29.74	755.5	69.6	20.9	83	WNW	.....	.....	3	.....	6	.....	.....	0.343	8.71	.....	Royal University Obs'y
Carlsruhe	29.43	747.5	29.84	758.0	66.9	19.4	80	W	.....	.....	1	.....	10	.....	.....	0.579	14.7	Raining	Albert Senz.
Cassel	29.27	743.4	29.87	758.7	64.8	18.2	49	N	.....	.....	4	.....	5	SSW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.72	754.8	29.88	758.9	64.9	18.3	51	N	.....	.....	2	.....	6clc;k	.....	.....	0.01	1.	.....	Director Lose.
Emden	29.81	757.1	29.85	758.1	63.0	17.2	51	NW	.....	.....	3	.....	1	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.50	749.3	29.85	758.3	68.2	20.1	.....	NNE	.....	.....	2	.....	7	.....	.....	0.008	0.2	.....	Physical Society.
Friedrichshafen	28.49	723.6	29.89	759.2	64.8	18.2	74	WSW	.....	.....	7	.....	10	W	.....	0.193	4.9	.....	M. Wilhelm.
Hamburg	29.72	755.0	29.79	756.7	63.0	17.2	58	NW	.....	.....	4	.....	4k	.....	.....	0.012	0.3	Showery	Captain F. Hegemann.
Kiel	29.73	755.1	29.74	755.5	63.7	17.6	50	WNW	.....	.....	3	.....	3	.....	.....	0.008	0.20	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.48	748.8	29.56	750.8	63.5	17.5	69	W	.....	.....	5	.....	4	.....	.....	0.004	0.1	.....	Prof. E. Luther.
Köslin	.....	.....	29.59	751.6	62.4	16.9	.....	W	.....	.....	4	.....	2	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.41	747.1	29.82	757.5	64.8	18.2	61	NW	.....	.....	4	.....	9	NW	.....	0.055	1.4	.....	Prof. Bruhns.
Memel, Naval School	29.50	749.4	29.55	750.6	62.6	17.0	56	W	.....	.....	3	.....	1clc	.....	.....	.....	.....	Squally	Reinbrecht and Skalweit.
Neufahrwasser	29.59	751.6	29.61	752.0	66.2	19.0	47	WNW	.....	.....	3	.....	7	.....	.....	0	0	.....	A. Lothes.
Posen	29.44	747.7	29.72	754.8	66.9	19.4	60	NW	.....	.....	6	.....	9	.....	.....	0	0	.....	Dr. Magener.
Strassburg (in Alsace)	29.35	745.5	29.89	759.1	64.9	18.3	88	N	.....	.....	1	.....	10	NW	.....	0.456	11.58	Raining	Astronomical Observatory.
Stuttgart	28.92	734.6	29.84	758.0	61.7	16.5	90	NW	.....	.....	1	.....	10	.....	.....	0.697	17.7	Raining	Prof. Schoder.
Treves, (Trier)	29.37	746.0	29.89	759.2	67.6	19.8	56	NE	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.34	719.8	29.79	756.7	60.6	15.9	94	WSW	3.6	1.6	.....	.....	10	.....	W	0.181	4.6	Raining	Dr. Von Bebber.
Wustrow, Naval School	29.69	754.0	29.72	755.0	62.4	16.9	58	W	.....	.....	5	.....	3	.....	.....	0.091	2.3	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.36	745.8	29.73	755.2	92.7	33.7	.....	SW	.....	.....	3.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.23	742.3	29.69	754.2	86.8	30.4	74	Calm	.....	.....	.....	.....	8	.....	.....	0	0	D. clouds	
Bombay	29.72	754.8	29.76	755.8	81.0	27.2	93	WSW	12	5.4	.....	.....	10	NNW	WNW	0.10	2.5	Overcast	
Poona	27.78	705.5	29.78	756.4	76.1	24.5	77	WSW	.....	.....	.....	.....	10	.....	WSW	0	0	Overcast	
Lahore	28.90	733.9	29.63	752.5	86.8	30.4	72	SE	2.6	1.2	.....	.....	3	.....	.....	0	0	Blue sky	
Belgaum	27.28	692.9	29.82	757.3	75.1	23.9	84	W	10	4.5	.....	.....	2	E	W	0	0	D. clouds	
Roorkee	28.73	729.8	29.63	752.6	77.2	25.1	97	SE	1.1	0.5	.....	.....	10	.....	.....	1.62	41.1	Gloomy	
Agra	29.03	737.3	29.58	751.3	88.7	31.5	69	S	.....	.....	.....	.....	7	.....	S	0	0	.....	.....
Nagpur	28.63	727.2	29.65	753.3	85.6	29.8	69	NW	4.3	1.9	.....	.....	6	.....	E	0.05	1.3	D. clouds	
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allahabad	29.29	744.0	29.60	751.8	86.6	30.3	85	Calm	0.7	0.3	.....	.....	9	.....	.....	0.28	7.1	D. clouds	
Patna	29.45	748.0	29.63	752.5	88.4	31.3	76	E	1.2	0.5	.....	.....	6	E	E	0	0	D. clouds	
Hazaribagh	27.64	702.1	29.63	752.6	81.8	27.7	82	E	5.4	2.4	.....	.....	8	.....	E	0.70	17.8	Thunder-storm	
Cuttack	29.60	751.8	29.68	753.9	84.5	29.2	77	S	1.4	0.6	.....	.....	4	.....	.....	0.10	2.5	D. clouds	
Calcutta (Alipore)	29.66	753.8	29.68	753.9	84.4	29.1	83	S	3	1.3	.....	.....	9	SW	.....	0	0	Overcast	
Goalpara	29.31	744.5	29.69	754.2	84.8	29.3	76	S	0.8	0.4	.....	.....	9	.....	.....	0.02	0.5	D. clouds	
Chittagong	29.64	752.9	29.74	755.3	82.9	28.3	89	SW	4.5	2.0	.....	.....	2	.....	.....	0	0	Misty	
Sibsagar	29.40	746.8	29.73	755.2	84.2	29.0	82	NE	2.6	1.2	.....	.....	6	.....	SW	1.78	45.2	D. clouds	
Jubbulpore	28.29	718.5	29.64	752.9	81.3	27.4	81	NW	3.9	1.7	.....	.....	10	.....	.....	0.15	3.8	Overcast	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft.. or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Upp'r 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.37	746.0	29.76	756.0	81.1	27.3	47	SE	1.3	0.6	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.67	753.5	29.77	756.2	77.2	25.1	64	SSE	3.1	1.4	.....	.....	7	.....	.....	0.138	3.5	.....	Prof. Dott. Lorenzoni
Vicenza	29.58	751 3	29.76	755.9	78.8	26.0	60	E	0.7	0.3	.....	.....	3	E	.....	0.579	14.7	.....	Conte Alm. Da Schio.
Bergamo	28.50	723.8	29.75	755 6	78.8	26.0	69	SW	.....	.....	1	.....	3	.....	.....	0.094	2.4	.....	Prof. Trionfini Carlo.
Milan	29.25	742.9	29.74	755.4	81 7	27.6	51	SE	.....	.....	1	.....	5	WSW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28 87	733.2	29.73	755.2	83.3	28.5	37	SSE	3.8	1.7	.....	.....	3	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.91	708.9	29.73	755.2	78.1	25 6	37	NE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.59	751.5	29.80	756.9	77.4	25 2	74	ESE	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.61	752.2	29.78	756.3	81.0	27.2	61	SE	.....	.....	4	.....	1	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.47	748 6	29.78	756.3	79.0	26.1	49	NW	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.55	750.6	29.80	756 8	82.0	27.8	43	WSW	.....	.....	4	.....	3	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.72	755.0	29.81	757.1	76.5	24.7	61	W	21.8	11.1	.....	.....	4	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	29.69	754 0	29.73	755.2	80.8	27.1	60	NE	.....	.....	.....	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Urbino	28.26	717 9	29.74	755.5	80.8	27 1	38	WSW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.64	752.8	29.81	757.1	86.0	30.0	42	SSW	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.64	752.8	29.83	757 7	84 0	28.9	56	SW	.....	.....	6	.....	4	S	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.59	749.4	29.74	755 5	92.5	33.6	34	NNW	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.68	753.8	29.83	758.5	84.9	29.4	25	NW	.....	.....	6	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.97	735.7	29.80	756 9	88.3	31.3	69	SW	4.9	2 2	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.64	752 8	29.88	759.0	85.8	29 9	33	WNW	14.3	6.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.74	755.3	29.81	757.2	81.7	27.6	72	NNE	.....	.....	4	.....	1	NNE	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.30	744.2	29.85	758.3	82.0	27.8	59	WSW	13.7	6.1	.....	.....	4	SW	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.73	755.1	29 93	760.2	80.0	26.7	53	E	5.6	2.5	.....	.....	3s	.....	.....	0	0	Fair	T. Arai, Director.
Tokei (Yeddo) Observatory	30.02	762.5	30.08	764.0	74.6	23.7	86	SSE	4.4	2 0	.....	.....	2s	.....	.....	0.095	0.13	Fair	
Tokei (Yeddo) University	29.98	761.5	30.08	763.9	74 8	23.8	90	SE	2.4	1.1	.....	.....	1s	.....	.....	0	0	Fine	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	62.6	17.0	98	N	0.9	0.4	.....	0	10n	.....	.....	0.68	17.2	Rainy	L. Castillo, A. E.
Guadalajara	25.02	635.5	29.95	760.7	60.4	15.8	89	SE	15.5	6.9	.....	0	9kn	.....	.....	Inap	Inap.	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0 07	1.8	.....	Prof. V. Fernandez
Leon	24.40	619.9	29.93	760.1	63.3	17.4	86	E	0.9	0 4	.....	0	10n	.....	SE	0.56	14.2	Covered	Prof. M. Leal.
Mexico	23.13	587.4	30.11	764.8	57.0	13.9	91	Calm	0	0	.....	0	10n	.....	E	0.17	4.2	Rainy	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.2	16.8	92	SE	0.9	0.4	.....	0	10n	.....	S	1.02	26.0	Covered	M. V. de Leon, M. E
Puebla	24.39	594.1	30.05	763.2	56.1	13.4	93	SSE	.....	.....	.....	0	10n	.....	S	0.28	7.2	Rainy	M. B. Gonzalez.
Tlacotalpam	29.88	758.9	29.89	759.2	78.8	26.0	80	SE	1.8	0.8	.....	5ck	3k	S	SE	0	0	Cloudy	Prof. F. R. Bayly.
San Luis Potosi	24 21	614.1	30.10	764.5	62.0	16.7	90	SE	0.9	0.4	.....	0	10	.....	SE	1.48	37.5	Covered	G. Barroeta, M. D.
Vera-Cruz	29.89	759.2	29.92	759.9	79.7	26.5	84	Calm	0	0	.....	4c	6sk	.....	.....	0	0	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	99	SW	1.8	0.8	.....	0	9	.....	E	0.24	6.0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.33	592.6	30.08	764.0	55.9	13.3	93	SE	0.7	0.3	.....	0	10	.....	S	0.46	11.6	Covered	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.37	720.5	30.02	762.6	75.6	24.2	81	SE	8.4	4.7	.....	0	10	.....	.....	5.12	130.0	Rainy	R. Banda, C. E.
San Juan E. Michapam	29.68	753.8	29.82	757.5	78.8	26.0	.....	Calm	0	0	.....	8ck	0	N	.....	0	0	Cloudy	Antonio Guerra y Guerra.
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Groningen	29.95	760.7	29.95	760.7	65.5	18.6	.....	NNE	.....	.....	3	.....	.....	.....	.....	0.039	1.0	.....	
Helder	29.85	758.1	29.90	7 9.5	62.1	16.7	.....	NNW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.92	759.9	29.92	759.9	61.3	16.3	.....	NW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Utrecht	29.90	759.4	29.90	759.4	68.9	20.5	58	N	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
.....	29.89	759.1	29.93	760.3	66.2	19.0	46	NNW	.....	.....	1	.....	5	.....	.....	0	0	Cloudy	H. v d Brink.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.72	754 8	29.77	756.2	60.1	15.6	53	NNW	19.2	8.6	.....	.....	0	.....	.....	0	0	.....	
Brönö	29.76	755.9	29.80	756.9	50.4	10.2	73	NNW	18	8	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.48	748.9	29.63	752.5	62.6	17.0	48	N	18	8	.....	.....	8	.....	.....	0.22(	5.7	.....	
Tromsö	29.76	755.9	29.80	757.0	48.6	9.2	71	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., *local time*, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.92	760.0	30.11	764.8	72.1	22.3	84	WSW	11.2	5.0	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.08	738.5	30.05	763.2	84.7	29.3	38	SW	6.3	2.8	.....	.....	3	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.07	763.6	30.15	765.8	78.8	26.0	63	SW	3.8	1.7	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.76	756.0	30.11	764.9	75.4	24.1	56	WSW	6.3	2.8	.....	.....	3	NNW	.....	0.004	0.1	.....	The Staff.
Ponta Delgada, (Azores)	30.10	764.5	30.17	766.2	77.7	25.4	54	W	6.9	3.1	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 34° 45′, W. 21° 38′	.....	.....	30.15	765.8	73.4	23	.....	NNE	.....	.....	5	.....	10	.....	NE	4	.....	Showery	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.04	762.9	67.1	19.5	.....	SW	.....	.....	1	.....	2	.....	SW	1	.....	Blue sky	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 23° 34′	.....	.....	29.92	759.9	82.8	28.2	.....	NNE	.....	.....	4	.....	1	.....	.....	1	NNE	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.01	762.2	72.5	22.5	.....	NW	.....	.....	1	.....	10	.....	E	1	.....	Overcast	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.22	742.1	29.62	752.4	66.9	19.4	70	WNW	9	4	.....	.....	4k;ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.16	740.7	29.57	751.0	64.0	17.8	76	SW	2	1	.....	.....	8	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.33	744.9	29.56	750.9	61.9	16.6	81	SSE	4	2	.....	.....	10n;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.59	751.5	29.60	751.9	63.0	17.2	63	S	16	7	.....	.....	8n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	28.98	736.0	29.57	751.1	79.9	26.6	41	S	16	7	.....	.....	7k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.75	755.6	29.82	757.4	81.7	27.6	43	SSW	13	6	.....	.....	0	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.88	759.0	29.90	759.5	78.4	25.8	63	ENE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.24	742 7	29.77	756.1	65.7	18.7	55	SSE	7	3	.....	.....	3ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.64	752.9	29.84	757 9	78.4	25 8	29	NE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.60	751.7	29.61	752 2	64.2	17.9	55	ESE	2	1	.....	.....	4ks	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.47	723.2	29.80	756.8	91.0	32.8	38	S	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.92	760.0	29.84	757.9	79.7	26.5	35	NE	9	4	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.32	744.7	29.58	751 2	67.1	19.5	52	NW	4	2	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.45	722.6	29.35	745.6	63 0	17.2	67	W	22	10	.....	.....	9k;ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.2	29.63	752.6	100.6	38.1	26	Calm	0	0	.....	.....	2k	.....	.....	.....	.....	.....	
Tashkend	28.21	716.5	29.81	757.2	82.4	28.0	56	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.31	744.4	29.80	756.8	78.6	25.9	43	SW	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.68	753.9	29.96	761.0	66.7	19.3	54	SSE	2	1	.....	.....	0	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.77	756.1	29.91	759.7	75.4	24.1	97	Calm	0	0	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.7	83.8	28.8	61	S	1.5	0.67	.....	.....	5k	.....	.....	0	0	.....	Antonio Rave, Director.
Bilbao, Met. Obs'y	30.06	763.5	30.11	764 9	73.2	22.9	67	N	3.4	1.52	2	6	SW	.....	.....	0	0	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.17	690.0	.....	.....	73.9	23.3	68	W	5.4	2.42	.....	6	.....	.....	.....	0	0	Cloudy	Domingo Martin y Peres
Madrid, Royal Observatory	27.84	707.2	29.93	760.3	88.5	31.4	29	NW	3.0	1.33	0	0	.....	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.80	756.9	29.94	760 5	92.8	33.8	38	E	3.4	1.50	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.21	741.8	30.08	764.0	70.9	21.6	68	SW	6.6	3.03	.....	.....	7	.....	.....	0.539	13.7	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.97	761.2	30.03	762.8	81.1	27.3	81	E	2.2	1.0	.....	2ck	0	Calm	.....	0	0	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.97	761.2	30.07	763.6	78.6	25.9	56	WSW	12.7	5.7	.....	0	0	.....	.....	0	0	Clear?	Capt. C. Pulazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.91	759.8	30.00	762.1	84.2	29.0	86	SE	2.2	1.00	.....	5cs	2k	SE	SE	0	0	.....	Leonardo de Tejada, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper, From—	Clouds. Direction. Lower, From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.66	753.4	29.70	754.4	53.2	11.8	.....	NE	.....	.....	6	.....	1	.....	.....	0	0	.....	
Umea	29.59	751.6	29.64	752.9	49.3	9.6	79	NE	.....	.....	7	.....	10	.....	.....	0.089	1.0	.....	
Hernosand	29.57	751.0	29.62	752.3	49.3	9.6	58	N	.....	.....	4	.....	10	.....	.....	4.666	118.5	.....	
Stockholm	29.21	741.9	29.39	746.4	54.9	12.7	69	ENE	.....	.....	4	.....	7	.....	.....	0.303	7.7	.....	
Wisby	29.33	744.9	29.39	746.4	54.0	12.2	89	WSW	.....	.....	7	.....	10	.....	.....	0.094	2.4	Thunder-storm...	
Sub-Series.																			
Upsala	29.35	745.0	29.43	747.5	55.0	12.8	77	NE	13.9	6.2	.....	.....	10	.....	NE	0.135	3.42	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c operation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	726.0	29.07	738.3	67.1	19.5	62	S	.....	.....	4	.....	9	.....	.....	0.114	2.9	Covered	The Observatory.
Zurich	28.33	719.6	29.04	760.4	63.1	17.3	77	W	.....	.....	4	.....	9	.....	.....	0.217	5.5	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer, —1.9 cent.; Relative Humidity, +6 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.78	756.3	76.6	24.8	65	N	16	7.0	.....	.....	1	.....	NE	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.60	759.5	83.3	28.5	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	
Sub-Series.																			A. Bertrand.
Beirut, (Syria,) Lee Obs'y	29.63	752.6	29.74	755.4	91.9	33.3	61	W	.....	.....	1	.....	1s	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.43	747.5	29.72	754.9	67	19.4	.....	N	5	2.2	.....	0	2s	.....	W	0.10	2.5	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.30	744.2	29.36	745.7	63	17.2	92	NW	12	5.4	.....	.....	10n	.....	W	0.44	11.2	Cloudy	W. R. Bigg.
*Chatham, N B	29.30	744.2	29.36	745.7	63	17.2	92	NW	12	5.4	.....	.....	10n	.....	W	0.44	11.2	Cloudy	G. A. Blair.
Charlottetown, P. E. Island	29.19	741.4	29.23	742.4	62	16.7	90	NW	16	7.2	.....	.....	10n	.....	Calm	1.170	29.72	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.48	748.8	29.66	753.4	65.8	18.8	87	NW	.....	.....	1	6cs	0	W	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	.....	.....	.....	.....	62	16.7	100	W	.....	.....	2	.....	.....	.....	.....	0.21	5.3	Raining	H. A. Johnson.
Esquimault, B. C	29.64	752 8	29.68	753.9	57.2	14.0	87	W	.....	.....	.....	9cs	0	.....	.....	0	0	Fair	W. H. Bevis.
*Father Point, Quebec	29.49	749.0	29.51	749 5	54	12.2	93	SW	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	J. McWilliams.
Fredericton, N. B	29.39	746.5	29.45	748.0	62.7	17.1	90	NW	8	3.6	.....	.....	10n	.....	.....	0.21	5.3	Light rain	Prof. Harrison.
Fort Garry Manitoba	29.04	737.6	29.83	757.7	62	16.7	94	SE	6	2.7	.....	10ck	2ks	S	S	0	0	Fair	James Stewart.
Granton, Ontario	28 80	731.5	29 86	758.4	64	17.8	94	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.17	740.9	29.28	743.7	65	18.3	92	W	14	6.3	.....	.....	10n	.....	.....	0.696	17.68	Heavy rain	F. Allison, M. A.
Hamilton, Ontario	29.50	749 3	29.86	758.4	66.7	19.3	80	NE	.....	.....	2	2ck	0	NE	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.45	748.0	29.47	748.5	68	20.0	72	SW	.....	.....	1	0	3ks	.....	.....	0.29	7.4	Cloudy	E. Weedon.
*Kingston, Ontario	29.44	747.8	29.76	755.9	67	19.4	79	N	10	4.5	.....	0	0	.....	.....	0.07	1.8	Clear	S. Woods, M. A.
Little Glace Bay, N. S	28.74	730.0	28.77	730 7	64.0	17.8	.....	SW	24	10.7	.....	8ks?	0	SW	.....	3.94	100.1	Light gale	C. H. Rigby.
*Montreal, Quebec	29.46	748.3	29.65	753.1	65	18.3	81	W	12	5.4	.....	.....	10n	.....	E	0.07	1.8	Light rain	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.22	742.2	29.80	756.2	64	17.8	94	N	12	5.4	.....	5ck	0	N	.....	0.03	0.8	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.08	738.6	29.80	756.0	68.9	20.5	88	NW	.....	.....	3	0	0	.....	.....	0.19	4.8	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.18	741 2	29.85	758.2	64	17.8	89	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.02	737.1	29.07	738 4	60.7	15.9	.....	NE	25	11.2	.....	.....	.....	.....	.....	0.90	22.9	Raining	Peter Grant.
Port Stanley, Ontario	29.23	742.4	29.80	758.4	63	17.2	88	N	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	M. Payne.
*Quebec, Quebec	29.25	742.9	29.56	750.8	66	18.9	92	W	.....	.....	1	5c	5k	W	W	0.21	5.3	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.40	746.7	29.84	757.9	64	17.8	86	W	6	2.7	.....	.....	8s	.....	N	0.15	3.8	Cloudy	W. H. McIntyre.
St. Andrews, N. B	29.41	747.0	29.46	748.3	64	17.8	86	N	2	0.9	.....	.....	10n	.....	.....	0.25	6.3	Cloudy	Dr. Gove.
St. John, N. B	29.28	743.7	29.44	747.8	63	17.2	94	NW	12	5.4	.....	.....	10n	.....	.....	0.45	11.4	Light rain	G. Murdock, C. E.
*Saugeen, Ontario	29.19	741.4	29.88	758.9	67	19.4	80	NE	10	4.5	.....	2k	0	N	.....	0	0	Fair	K. Stewart.
Stayner, Ontario	29.10	739.1	29.85	758.2	64	17.8	83	N	5	2.2	.....	5k	0	NE	.....	0.16	4.1	Fair	R. J. Cole.
Stratford, Ontario	28.60	726.4	29.84	757.9	61.7	16.5	94	NW	5	2.2	.....	4k	4ks	N	Calm	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	28.79	731.3	28 82	732.0	63	17.2	86	SW	26	11.6	.....	.....	10n	.....	W	3.32	84.3	Clearing	T. C. Hill.
*Toronto, Ontario	29.47	748.5	29.84	757.9	66	18.9	79	N	14	6.3	.....	2k	0	NE	.....	Inap.	Inap.	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Sub-Series.																			Prof. John E. Oram.
St. Johns, Newfoundland	.....	.....	.....	.....	63.0	17.2	100	S	.....	.....	.....	Haze	Haze	.....	.....	0.48	12.2	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Upper. 0–10.	Clouds. Amount. Low'r. 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.44[a]	747.8	29.66	753.4	68	20.0	74	NW	8	3.6	.....	0	0	.. ..	.....	0	0	Clear	
Alpena, Michigan	29.29	744.0	29.91	759.7	67	19.4	79	NE	4	1.8	....	0	1ks	.....	NE	0	0	Clear	
Atlantic City, New Jersey	29.76	754.4	29.71	754.6	69	20.6	79	W	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	
Augusta, Georgia	29.71	754.6	29.88	758.9	86	30.0	68	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear.....	
Baltimore, Maryland	29.72	754.9	29.76	755.9	73	22.8	72	NW	4	1.8	.....	5k	Haze	NW	Calm	0.13	3.3	Fair	
Barnegat, New Jersey	29.69	754.1	29.71	754.6	73	22.8	67	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Bismarck, Dakota	28.03	711 9	29.88	758.9	65	18.3	84	E	1	0.4	.....	2cs	0	W	.....	0.09	2.3	Clear.....	
Boerne, Texas	28.54	724.9	.....	.....	75	23.9	90	SE	4	1.8	.....	8k	0	SE	.....	Inap.	Inap.	Clearing.....	
Boise City, Idaho	26.88	682 7	29.84	757.9	61	16.1	60	NE	4	1.8	.....	8k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	29.45	748.0	29.60	751.8	67	19.4	74	W	11	4.9	.....	5c	Haze	N	Calm	0	0	Fair.....	
Brackettville, Texas	28.81	731.8	29.79	756.7	76	24.4	91	SE	5	2.2	.....	10cs	0	Calm	.....	0.42	10.7	Cloudy.....	
Breckenridge, Minnesota	28.85	732.8	29.82	757.4	60	15.6	100	E	4	1.8	.....	2k	Fog	Calm	Calm	0	0	Foggy.....	
Brownsville, Texas	29.85	758.4	29.93	760.2	77	25.0	95	Calm	0	0	.....	.....	10k	.....	SE	0.93	23.6	Cloudy.....	
Buffalo, New York	29.13	739.9	29.80	756.9	64	17.8	89	N	5	2.2	.....	5k	0	NW	.....	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	88	31.1	56	N	.....	.....	1	0	0	.....	.....	0	0	Clear.....	
Burlington, Vermont	29.41	747.0	29.66	753.4	66	18.9	90	Calm	0	0	.....	.....	10s	.....	N	0.04	1.0	Cloudy.....	
Cairo, Illinois	29.55	750.6	29.92	760.0	80	26.7	82	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy.....	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	79	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy.....	
Camp Grant, Arizona	25.06	636.5	29.86	758.4	74	23.3	55	E	.....	.....	4	5k	5s	E	E	0	0	Cloudy.....	
Camp Verde, Arizona	26.60	675.6	30.09	764.3	74	23.3	81	Calm	.....	.....	0	0	5s	.....	Calm	0.20	5.1	Fair	
Campo, California	27.19	690.6	29.76	755.9	50	10.0	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	
Cape Hatteras, N. Carolina	29.78	756.4	29.79	756.7	78	25.6	86	NW	9	4.0	.....	8k	2s	NE	N	0.38	9.7	Cloudy.....	
Cape Henry, Virginia	29.75	755.6	29.78	756.4	77	25.0	82	NW	14	6.3	.....	5cs	0	NW	....	0.95	24.1	Clearing.....	
Cape Lookout, N. Carolina	29.79	756.7	29.81	757.2	81	27.2	70	NW	15	6.7	.....	8k	0	NW	.....	0.04	1.0	Cloudy.....	
Cape May, New Jersey	29.72	754.9	29.75	755.6	73	22.8	71	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	
Castroville, Texas	29.17	740.9	29 83	757.7	79	26.1	82	SE	4	1.8	.....	2ck	2s	.....	SE	0.01	0.3	Fair.....	
Charleston, South Carolina	29.84	757.9	29.90	759.4	83	28.3	79	NW	5	2.2	.....	5c	0	NW	.....	0	0	Fair	
Cheyenne, Wyoming	24.07	611.4	30.01	762 2	56	13.3	81	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Chicago, Illinois	29.18	741.2	29.84	757.7	73	22.8	85	E	6	2.7	.....	.....	10s	.....	E	0.14	3.6	Cloudy.....	
Cincinnati Ohio	29.20	741.7	29.81	757.2	76	24.4	84	W	4	1.8	.....	.....	10s	.....	NW	0.63	16.0	Threatening	
Cleveland, Ohio	29.14	740.1	29.82	757.4	73	22.8	72	N	8	3.6	.....	5k	5ks	NW	NW	0.02	0.5	Cloudy.....	
Coleman City, Texas	28.20	716.3	29.79	756.7	77	25.0	82	Calm	0	0	.....	.....	10ks	.....	S	0	0	Cloudy.....	
Columbus, Ohio	28.99	736.3	29.78	756.4	72	22.2	95	NE	2	0.9	.....	5k	Haze	W	Calm	0.52	13.2	Fair	
Conchо, Texas	28.09	713.5	29.70	754.4	71	21.7	49	E	2	0.9	.....	5c	0	E	.....	0	0	Fair.....	
Corsicana, Texas	29.54	750.3	29.99	761.7	75	23.9	95	S	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
Davenport, Iowa	29.23	742.4	29.84	757.9	72	22.2	90	Calm	0	0	.....	... ...	10s	.....	Calm	2.52	64.0	Cloudy.....	
Denison, Texas	29.20	741.7	29.96	761.0	79	26.1	82	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.....	
Denver, Colorado	24.78	629.4	30.00	762.0	66	18.9	64	SE	6	2.7	.....	.....	8s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	28.93	734.8	29.74	755.4	79	26.1	87	NW	2	0.9	.....	.....	Fog	....	Calm	0	0	Foggy.....	
Detroit, Michigan	29.22	742.2	29.86	758.4	67	19.4	79	N	7	3.1	.....	1c	0	N	.....	0	0	Clear.....	
Dodge City, Kansas	27.33	694.2	29.48	748.8	75	23 9	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.15	740.4	29.81	757.2	73	22.8	85	SE	6	2.7	.....	5k	Fog	Calm	Calm	0.43	10.9	Cloudy.....	
Duluth, Minnesota	29.29	744.0	29.94	760.5	66	18.9	84	NE	16	7.2	.....	0	5s	.....	NE	0	0	Fair.....	
Eagle Pass, Texas	29 13	739.9	29.84	757.9	75	23.9	100	SE	4	1.8	.....	.....	10ks	.....	S	2.05	52.1	Cloudy.....	
Eastport, Maine	29.38	746.2	29.45	748.0	64	17.8	83	NW	10	4.5	.....	.....	10s	.....	N	0.16	4.1	Cloudy.....	
El Paso, Texas	.....	.....	.....	.....	80	26.7	58	W	6	2.7	.....	0	5s	.....	Calm	0.02	0.5	Fair	
Erie, Pennsylvania	29.14	740.1	29.82	757.4	69	20.6	75	NE	8	3.6	.....	8k	0	NE	.....	0	0	Cloudy.	
Escanaba, Michigan	29.34	745.2	29.98	761.5	61	16.1	82	NE	12	5.4	.....	5c	0	NE	.....	0	0	Fair.....	
Florence, Arizona	.....	.....	.....	.....	85	29.4	44	N	.....	.....	1	.....	10s	.....	W	0	0	Cloudy.....	
Fort Craig, New Mexico	25.48	647.2	29.55	750.6	69	20.6	84	Calm	0	0	....	0	0	.....	.....	0.02	0.5	Clear	
Fort Davis, Texas	25.21	640.3	30.17	766.3	69	20.6	75	Calm	0	0	.....	0	2s	.....	S	0.03	0.8	Fair.....	
Fort Gibson, Indian Ter	29.40	746.7	29.91	759 7	79	26.1	87	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Fort Griffin, Texas	28.71	729 2	29.93	760 2	73	22.8	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	
Fort McKavett, Texas	27.75	704.8	29.58	751.3	75	23.9	81	SE	2	0.9	.....	.....	10s	.....	SE	0	0	Cloudy.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.76	730.5	29.81	757.2	76	24.4	76	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	
Fredericksburg, Texas	28.25	717.5	29.74	755.4	75	23.9	90	Calm	0	0	.....	2ck	2ks	Calm	Calm	0.03	0.8	Fair.....	
Galveston, Texas	29.96	761 0	30.00	762.0	83	28.3	79	SE	3	1.3	.....	5ck	0	NE	.....	0	0	Fair	
Graham, Texas	28.90	734.0	29.90	759.4	75	23.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Grand Haven, Michigan	29.26	743 2	29.88	758.9	68	20.0	74	NE	6	2.7	.....	2c	0	N	.....	0	0	Fair.....	
Indianapolis, Indiana	29.10	739.1	29.84	757.9	74	23.3	86	NW	3	1.3	.....	.....	10s	.....	NW	0.08	2.0	Threatening	
Indianola, Texas	29.94	760.5	29.97	761.2	84	28.9	79	S	5	2.2	.....	2ck	0	NW	.....	0.02	0.5	Fair	
Jacksboro, Texas	28.84	732.5	29.92	760.0	75	23.9	86	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	
Jacksonville, Florida	29.94	760.5	29.96	761.0	85	29.4	72	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.16	740.7	29.74	755 4	74	23.3	86	SW	14	6.3	.....	.....	10s	.....	Calm	2.17	55.1	Cloudy.....	
Key West, Florida	30.00	762.0	30.04	763.0	85	29.4	72	E	4	1.8	.....	5ck	1kg	W	Calm	0	0	Fair.....	
Kittyhawk, North Carolina	29.75	755.3	29.77	756.1	76	24.4	95	N	8	3.6	.....	2cs	2s	Calm	N	0.64	16.3	Fair	
Knoxville, Tennessee	28.94	735.1	29.89	759.2	77	25 0	82	Calm	0	0	.....	3k	0	NW	.....	0	0	Fair.....	
La Crosse, Wisconsin	29.14	740.1	29.83	757.7	74	23.3	76	SE	4	1.8	.....	.....	10s	....	Calm	0.21	5.3	Cloudy	
La Mesilla, New Mexico	26.00	660.4	30.15	765.8	69	20.6	75	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Laredo, Texas	29.47	748.5	29.79	756.7	76	24.4	91	NE	4	1.8	.....	10ck	0	Calm	.....	0.55	14.0	Cloudy.....	
Lead City, Dakota	24.79	629.6	30.06	763.5	56	13.3	75	S	4	1.8	.....	2c	0	Calm	.....	0	0	Fair.....	
Leavenworth, Kansas	29.01	736.8	29.89	756.9	78	25.6	78	N	5	2.2	.....	5c	5ks	E	NW	0	0	Cloudy	
Los Angeles, California	29.37	746 0	29.70	754.4	61	16.1	82	S	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.28	743.7	29.80	756.9	77	25.0	82	SE	6	2.7	.....	.....	10s	.....	SW	0.76	19.3	Cloudy	
Lynchburg, Virginia	29.16	740.7	29.79	756.7	81	27.2	66	Calm	0	0	.....	0	5ks	.....	Calm	0.16	4.1	Fair.....	
Marquette, Michigan	29.29	744.0	29.96	761.0	66	18.9	74	NE	4	1.8	.....	10k	0	N	.....	0	0	Cloudy.....	
Mason, Texas	28.36	720.3	30.04	763.0	75	23.9	90	E	.....	.....	1	.....	Fog	.....	Calm	0.03	0.8	Foggy	
Memphis, Tennessee	29.66	753.4	29.96	761.0	84	28.9	75	SW	5	2.2	....	5c	0	N	.....	0	0	Fair	
Milwaukee, Wisconsin	29.20	741.7	29.89	759.2	70	21.1	80	NE	9	4.0	.....	1ck	5ks	.....	E	0	0	Fair	
Mobile, Alabama	29.99	761.7	30.04	763.0	80	26.7	76	E	1	0.4	.....	0	Sm'e	.....	.....	Inap	Inap.	Clear.	
Montgomery, Alabama	29.77	756.1	29.99	761.7	81	27.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.81	731.8	29.82	757.4	66	18.9	95	E	2	0.9	.....	.....	10s;fg	.....	Calm	0.37	9.4	Cloudy	
Mt. Washington, N. H.	23.58	598.9	29.94	760.5	45	7.2	100	NW	23	10 3	.....	.....	10n	.....	NW	0.25	6.3	Light rain...	
Nashville, Tennessee	29.42	747.3	29.92	760.0	84	28.9	71	W	4	1.8	.....	8c	0	Calm	.....	0	0	Fair.....	
New Haven, Connecticut	29.57	751.1	29.68	753.9	68	20.0	70	NW	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
New London, Connecticut	29.62	752.3	29.66	753.4	72	22.2	67	NW	6	2.7	.....	2ck	Haze	W	Calm	0	0	Fair.....	
New Orleans, Louisiana	29.98	761.5	30.03	762 7	83	28.3	75	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.58	751.3	29.63	752.6	69	20.6	80	NW	9	4.0	.....	1c	0	NW	.. ..	0	0	Clear.....	
New York, New York	29.54	750.3	29.70	754.4	68	20.0	69	W	5	2.2	.....	0	8ks	.....	NW	0	0	Fair.....	
Norfolk, Virginia	29.72	754.9	29.78	756.4	76	24.4	91	N	4	1.8	.....	.....	10s	.....	N	0.07	1.8	Cloudy	
North Platte, Nebraska	27.01	686.0	29.44	747.8	69	20.6	95	NE	12	5.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Olympia, Washington Ter	29.71	754.6	29.75	755.6	50	10.0	93	S	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.71	729.2	29.71	754.6	76	24.4	86	N	3	1.3	.....	0	0	.....	.....	0.45	11.4	Clear.....	
Oswego, New York	29.47	748.5	29.78	756.4	67	19.4	84	N	8	3.6	..	8k	0	N	.....	0.03	0.8	Fair.....	
Pembina, Dakota	29.04	737.6	29.84	757.9	57	13.9	94	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.68	753.9	29.73	755.1	72	22.2	53	W	8	3.6	.....	0	Sm'e	.....	Calm	0	0	Clear.....	
Phœnix, Arizona	28.49	723.6	.....	.....	90	32.2	57	NE	.....	.....	1	0	8s	.....	SW	0.01	0 3	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	38	3.3	54	S	20	8.9	.....	5k	0	S	.....	0	0	Fair	
Pioche, Nevada	24.00	609.6	29.77	756.1	60	15.6	65	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.02	737.1	29.79	756.7	66	18.8	89	NW	3	1.3	.....	8k	Fog	NW	Calm	Inap	Inap.	Cloudy	
Port Huron, Michigan	29.22	742.2	29.85	758.2	71	21.7	71	NE	12	5.4	.....	5k	0	W	.....	0	0	Fair	
Portland, Maine	29.51	749.5	29.56	750.8	67	19.4	79	W	3	1.3	.....	10k	Haze	NW	.....	0	0	Cloudy	
Portland, Oregon	29.74	755.4	29.85	758.2	58	14.4	76	NW	4	1.8	.....	.....	10ks	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.69	627.1	30.05	763.3	64.5	18.1	80	Calm	0	0	.....	0	2s	.....	Calm	0.69	2.3	Clear	
Pilot Point, Texas	29.21	741.9	30.00	762.0	79	26.1	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.02	762.5	30.04	763.0	86	30.0	80	E	1	0.4	.....	2cs	5ks	Calm	SW	0.01	0.3	Fair	
Red Bluff, California	29.28	743.7	29.62	752.3	69	20.6	52	S	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.93	760.2	80	26.7	74	SE	6	2.7	.....	0	5s	.....	.....	1.91	48.5	Fair	
Rochester, New York	29.18	741.2	29.76	755.9	67	19.4	84	N	6	2.7	.....	10k	0	NE	.....	0.04	1.0	Cloudy	
Roseburg, Oregon	29.27	743.4	29.83	757.7	54	12.2	86	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.55	750.6	29.64	752.8	58	14.4	76	S	10	4.5	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.34	745.2	29.88	758.9	75	23.9	86	N	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	29.98	761.5	29.99	761.7	80	26.7	87	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.01	736.8	29.79	756.7	72	22.2	85	E	6	2.7	.....	2c	0	NW	.....	0	0	Clear	
Salt Lake City, Utah	25.55	649.0	29.88	758.9	69	20.6	61	SE	2	0.9	.....	5k	0	SW	.....	0	0	Fair	
San Antonio, Texas	29.26	743.2	29.82	757.4	78	25.6	91	NE	2	0.9	.....	10cs	0	NE	.....	0	0	Cloudy	
San Diego, California	29.66	753.4	29.73	755.1	66	18.9	84	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.21	741.9	29.85	758.2	72	22.2	76	NE	13	5.8	.....	1c	0	Calm	.....	0	0	Clear	
Sandy Hook, New Jersey	29.68	753.9	29.71	754.6	70	21.1	71	NW	13	5.8	.....	10k	0	NW	.....	0	0	Cloudy	
San Francisco, California	29.67	753.6	29.73	755.1	54	12.2	90	SW	7	3.1	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	62	16.7	61	E	2	0.9	.....	0	2s	.....	Calm	0.04	1.0	Fair	
Savannah, Georgia	29.83	757.7	29.92	760.0	89	31.7	73	W	7	3.1	.....	8c	Haze	Calm	Calm	0	0	Fair	
Shreveport, Louisiana	29.80	756.9	30.01	762.2	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.27	616.4	.....	.....	66	18.9	84	N	8	3.6	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Smithville, North Carolina	29.80	756.9	29.83	757.7	80	26.7	78	N	1	0.4	.....	8c	0	W	.....	0	0	Fair	
Springfield, Massachusetts	29.46	748.3	29.58	751.3	69	20.6	70	NW	2	0.9	.....	2ck	0	N	.....	0	0	Fair	
Stockton, Texas	26.93	684.0	29.93	760.2	70	21.1	61	SE	12	5.4	.....	.....	10ks	.....	SE	0.10	2.5	Cloudy	
Thatcher's Island, Mass	29.53	750.0	29.58	751.3	66	18.9	79	NW	13	5.8	.....	2c	0	NW	.....	0	0	Fair	
Toledo, Ohio	29.19	741.4	29.83	757.7	69	20.6	80	N	8	3.6	.....	0	0	.....	.....	0.05	1.3	Clear	
Tucson, Arizona	27.15	689.6	29.70	754.4	82	27.8	74	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Tybee Island, Georgia	29.89	759.2	29.92	760.0	85	29.4	72	W	8	3.6	.....	5cs	0	Calm	.....	0	0	Fair	
Umatilla, Oregon	29.26	743.2	.....	.....	68	20.0	70	NE	4	1.8	.....	0	8ks	.....	W	0.02	0.5	Cloudy	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.59	15.0	Light rain	
Vicksburg, Mississippi	29.80	756.9	30.05	763.3	83	28.3	79	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Virginia City, Montana	24.23	615.4	29.71	754.6	55	12.8	59	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.32	744.7	29.68	753.9	61	16.1	66	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.69	754.1	29.80	756.9	72	22.2	80	NW	5	2.2	.....	0	0	.....	.....	0.06	1.5	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Wilmington, N. Carolina	29.75	755.6	29.82	757.4	77	25.0	81	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Winnemucca, Nevada	25.42	645.7	29.78	756.4	52	11.1	47	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	29.57	751.1	29.62	752.3	71	21.7	71	NW	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear	
Yankton, Dakota	28.61	726.7	29.83	757.7	68	20.0	95	NE	4	1.8	.....	.....	Fog	.....	Calm	Inap	Inap.	Foggy	
Yuma, Arizona	29.39	746.5	29.54	750.3	82	27.8	39	E	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.90	759.4	29.95	760.7	48.5	9.2	93	S	7	3.1	.....	1c	2s	S	S	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba. W. I	30.01	762.2	30.03	762.7	83	28.3	79	SE	2.4	1.1	.....	4ck	0	SE	.....	0	0	Fair	Chas. Hasselbrink.
Santiago de Cuba, W. I	29.92	760.0	29.94	760.5	81	27.2	78	Calm	0	0	.....	4c	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	84	28.9	83	SE	6	2.7	.....	2c	4k	E	.....	0	0	Fair	G. O. Gellich.
Kingston, Jamaica, W. I	30.07	763.8	30.08	764.0	81	27.2	91	Calm	0	0	.....	5c	5	Calm	.....	0	0	.....	James Gall.
Navassa, W. I	29.89	759.2	29.97	761.2	84	28.9	.....	SE	10.8	4.8	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.05	763.3	30.05	763.3	81	27.2	87	SE	.....	.....	3	0	5k	.....	.....	0.160	4.06	Fair	C. J. Hering
Medellin, Colombia, S. A	25.22	640.6	.....	.....	68.5	20.3	78	SE	2	0.9	.....	9cs;k	1ks	.....	.....	0.01	0.3	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m., Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.8 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,860 (?) ft., or 545.7 (?) m.; Pike's Peak, 14,170.7 ft., or 4,318.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.17	766.3	80	26.7	80	26.7	87	NW	1	0.4	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.56‡	750.8‡	.....	.....	66	18.9	74	WNW	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	30.06*	763.5*	75.9	24.4	74.6	23.7	88	S	.....	.....	1	.....	7ks	.....	N	0	0	.....	.....	Cloudy.....	
Adams. Apia, Samoan Islands	30.07	763.8	74	23.3	74	23.3	100	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Pleasant.....	
Alliance. Villafranca, France	29.79‡	756.7‡	.....	.....	76	24.4	77	E	.....	.....	1–2	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Ashuelot. Kobe, Japan	30.04	763.0	82	27.8	80	26.7	87	Calm	.....	.....	0	.....	2	.....	W	.....	.....	Smooth	.....	Hazy.....	
Alaska. S. 35° 52′, W. 52° 57′	30.20	767.1	64	17.8	53	11.7	86	SE	.....	.....	4	.....	10	.....	SE	0.15	3.8	Long	NW	Drizzling.....	
Canonicus. New Orleans, La	30.06	763.5	56	13.3	80	26.7	91	W	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	29.65‡	753.1‡	.....	.....	70	21.1	61	WNW	10	4.5	.....	.....	8	.....	WNW	0	0	.....	.....	Light fog....	
Constitution. Havre, France	29.87‡	758.7‡	.....	.....	63	17.2	94	ENE	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Overcast.....	
Despatch. Constantinople, Turkey	29.76‡	755.9‡	.....	.....	75	23.9	81	NE	.....	.....	4	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Franklin. Norfolk, Va.	29.90	759.4	78	25.6	76	24.4	100	NNW	4.8	2.1	.....	.....	8	.....	NNW	0.01	1.0	.....	.....	Cloudy.....	
Gettysburg Toulon, France	29.81‡	757.2‡	.....	.....	75	23.9	??	WSW	.....	.....	6	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Hartford. Rio de Janeiro, Brazil	30.16	766.1	.....	.....	63	17.2	89	N	6.0	2.7	.....	.....	8	.....	N	0	0	.....	.....	Cloudy.....	
Marion. Barcelona, Spain	30.02	762.5	78	25.6	79	26.1	70	S	.....	.....	3	.....	2	.....	S	0	0	Smooth	.....	Fair.....	
Michigan. Milwaukee, Wisconsin	29.43	747.5	75	23.9	73	22.8	72	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	30.07‡	763.8‡	.....	.....	77	25 0	82	S	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Cloudy.....	
New Hampshire. Port Royal, S. C.	30.10	764.5	85	29.4	84	28.9	75	W	11	4.9	.....	.....	5	.....	W	0	0	.....	.....	Fair.....	
Onward. Callao, Peru	30.13†	765.3†	.....	.....	60	15.6	88	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Smooth	.....	Misty.....	
Passaic. Washington, D. C.	.....	.....	.....	.....	75	23.9	100	SW	.....	.....	1	.....	2	.....	NE	0.9	23.	.....	.....	Clear.....	
Palos. Tientsin, China	29.99	761.7	79	26.1	78	25.6	91	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	.....	.....	Light rain...	
Plymouth. New York, N. Y.	29.95	760.7	70	21.1	69	20.6	80	WNW	.....	.....	2	.....	8	.....	S	.....	.....	.....	.....	Cloudy.....	
Ranger. Hong-Kong, China	30.01	762.2	86	30.0	86	30.0	84	NE	.....	.....	1	.....	5	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo. Brownsville, Texas	29.89	759.2	79	26.1	79	26.1	95	SE	.....	.....	.....	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Santee. Annapolis, Md	29.77‡	756.1‡	.....	.....	73	22.8	56	NW	.....	.....	1	.....	2	.....	NW	0.07	1.8	.....	.....	Clear.....	
St. Louis. League Island, Pa	29.71	754.6	70	21.1	70	21.1	75	NNW	8	3.6	.....	.....	2	.....	NW	0	0	.....	.....	Fair.....	
Supply. Havre, France	29.96	761.0	65	18.3	62	16.7	88	ESE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Overcast.....	
Swatara. Boston, Mass	29.56‡	750.8‡	.....	.....	67	19.4	84	NW	.....	.....	3	.....	5	.....	.....	.....	.....	.....	.....	Fair.....	
Trenton. Cherbourg, France	29.87‡	758.7‡	.....	.....	64	17.8	89	ESE	.....	.....	2	.....	10	.....	S;E	0.5	13.	.....	.....	Overcast....	
Tuscarora. Acapulco, Mexico	29.78	756.4	75	3.9	75	23.9	90	Calm	.....	.....	0	.....	10	.....	Calm	2.0	51.	.....	.....	Cloudy.....	
Vandalia. Villafranca, France	29.76‡	755.9‡	.....	.....	77	25.0	69	E	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash. Boston, Mass	29.59‡	751.6‡	.....	.....	71	21.7	66	NNW	7	3.1	.....	.....	8	.....	Calm	0	0	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. * It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the last 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 39° 30′, W. 141° 46′		30.29*	769.4*	62	16.7	94	NNW			4		9		N	0	Light	N	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, Esquimault, B. C.		29.79†	756.7†				Calm			0		4		Calm				Fair	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China		29.89	759.2	81	27.2	96	NE	10	4.5			5		SW	0	Smooth		Lightning	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 8° 59′, W. 84° 46′		29.95†	760.7†	81	27.2	96	S			2		9		Calm	0	Mod'ate	S	D. clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, San Francisco, Cal.		30.04†	763.0†	53	11.7	??	Calm			0		3		Calm	0			D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.																			
Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 46° 18′, W. 40° 14′		29.85*	758.2*	61	16.1	??	NE			3				NE	4 hours	Mod'ate	NE	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Yokohoma, Japan		29.84*	757.9*	78	25.6	86	Var.			1		k		S		Smooth	S	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 50′, W. 136° 15′		29.97†	761.2†	63	17.2	83	NNW			4		cs		N	0	Heavy	N	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 44° 18′, E. 161° 23′		30.09	764.3	54	12.2	100	E			4		4		E		4	SE;S	D clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.																			
Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 52° 17′, E. 3° 7′		29.96	761.0	69	20.6	??	NE			3		2		NE	0	Light	N	Fine	Capt. T. H. Lamke.
S. S. Braunschweig, N. 50° 26′ W. 21° 45′		29.55	750.6	63	17.2	62	S			5-6		8		S		5	SSW;W	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Mersey River		30.00*	762.0*	62	16.7	94	ENE			3		5		WSW	0			Hazy	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		29.74	755.4	74	23.3	86	W			3		0			0			Clear	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.01†	762.2†	75	23.9	100	NE			1		9		NE	0			Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Off Hereford Inlet, N. J.		29.70	754.4	72	22.2	71	WNW	4	1.8			0			0	Smooth		Clear	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		30.13*	765.3*	41.8	5.4		W			3	0	0			0.82 in or 20.8 mm.			Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 21, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.00	761.9	88 2	31.2	58	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.93	760 2	84.6	29.2	73	ENE	.....	.....	3	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.96	761 0	79 0	26.1	83	ENE	.....	.....	4	.....	3	.....	.....	0	0	Pretty fair .	Foufrede.
Tunis	.....	.....	30.02	762 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.09	764.2	89.6	32 0	.....	NNE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Gau.
Saida	.....	.....	30.10	764 6	109.4	43 0	29	NNE	.....	.....	3	.....	1	.....	.....	0	0	Very fair.....	Herbin.
Tebessa	.....	.....	30.01	762.2	90 5	32 5	26	S	.....	.....	1	.....	3	.....	.....	0	0	Pretty fair...	Watrin.
Geriville	.....	.....	30.17	766.3	89.2	31.8	41	S	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair..	Brugniaux.
Laghouat	.....	.....	30.11	764.7	102.2	39.0	22	SW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.00	761.9	102.2	39.0	25	ESE	.....	.....	2	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann. Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.40	746.7	29.94	760.5	59.0	15.0	85	NE	.....	.....	2	.....	10	.....	.....	0.925	23.5	Raining.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.16	740.7	29.91	759.7	65.8	18.8	87	W	.....	.....	1	.....	8	.....	.....	0.020	0.5	.....	Dr. Wierzbiski
Eperies	29 00	736.6	29.87	758 7	57.2	14.0	84	Calm	.....	.....	0	.....	10k	.....	.....	0.043	1.08	.....	Julius Mikolik.
Gratz	28.67	728.1	29.89	759.2	64.2	17.9	80	SW	.....	.....	5	.....	10	.....	.....	0.014	0.35	.....	Andreas Rospini.
Hermannstadt	28.49	721.3	29.74	755 5	75.0	23.9	61	NNE	.....	.....	2	.....	4	.....	.....	0.026	0.65	Light rain...	Prof. Reissenberg
Kremsmünster	28.66	727.9	29.98	761.4	62.2	16.8	76	W	.....	.....	2	.....	10c;ks	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.86	733.1	29.82	757 5	63.7	17.6	70	SW	.....	.....	2	.....	8	.....	.....	0.035	0.9	.....	Dr. T. Stanecki.
Pola	29.76	756.0	29.87	758 8	75.0	23.9	53	NE	.....	.....	5	.....	2ks	.....	.....	1 508	38.3	.....	I.R.Hydrographic Office
Szathmar	29.36	745.8	29.81	757.1	74.3?	23.5?	62	N	.....	.....	2	.....	3	.....	.....	0.386	9.8	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.81	757.2	29.91	759.8	71.6	22.0	51	ENE	.....	.....	2	.....	1	.....	.....	Inap.	Inap.	Rainy	P. Busin.
Vienna	29.28	743.6	29.98	761.4	64.9	18.3	55	NNW	.....	.....	1	.....	8	.....	.....	0.146	3.7	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.53	724.6	30.00	761.9	66.0	18.9	52	NNW	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. M. Passau.
Brussels	29.85	758.2	30.05	763.2	64.9	18.3	40	E	.....	.....	1	.....	4	.....	E	0	0	.....	Royal Observatory
Furnes	30.06	763.4	30.08	764.0	69.3	20 7	56	E	.....	.....	1	.....	7	.....	.....	0	0	.....	M. E. de Cae.
Maeseyck	29.96	761.0	30.09	764.2	64.6	18 1	57	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:5, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

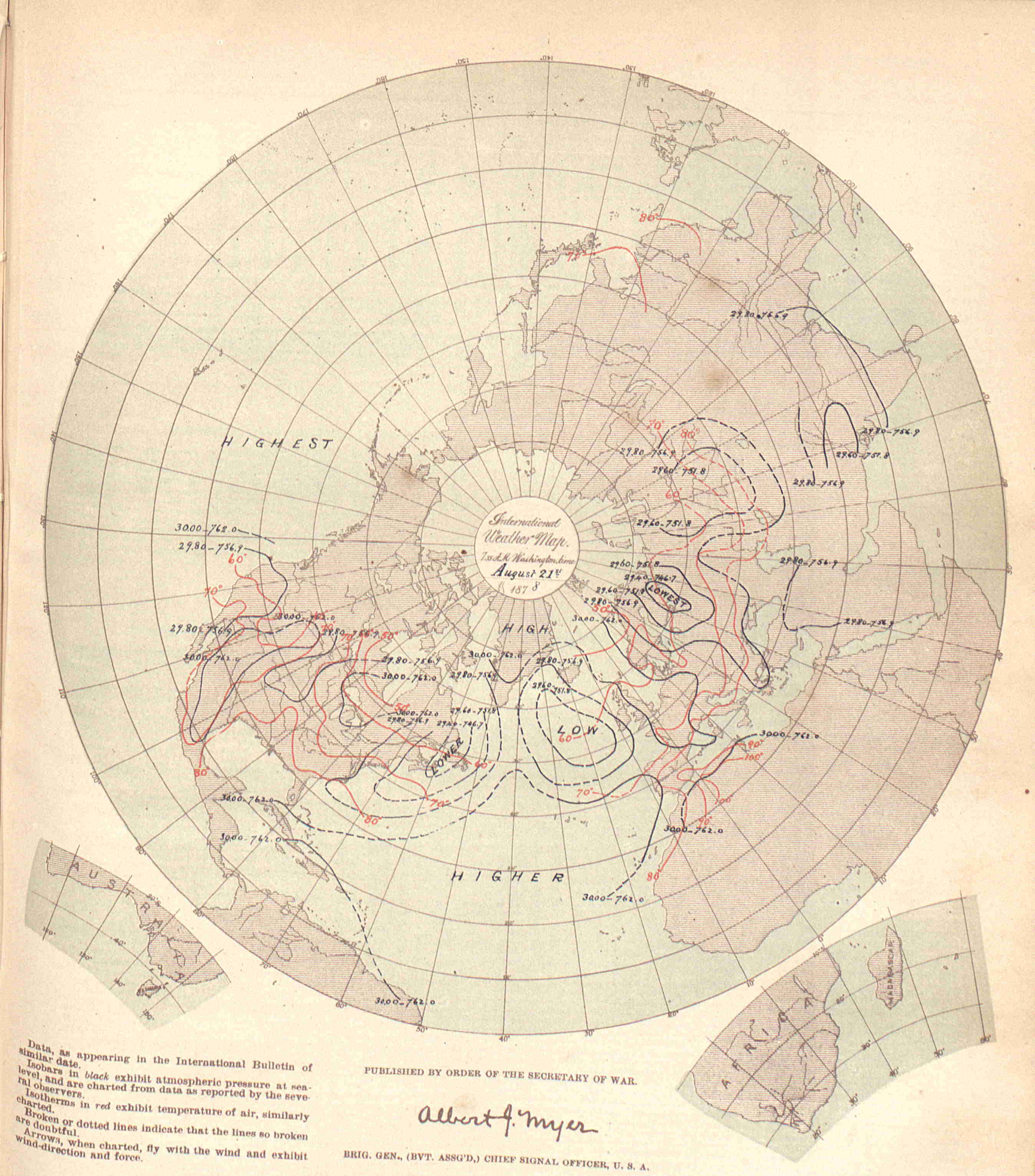
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er. 0–10.	Clouds. Amount. Low'r. 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Aberdeen	29.96	761.0	30.06	763.5	58.0	14.4		ESE	10	4.5			5			0	0	Blue sky	W. Boswell.
Ardrossan	30.00	762.0	30.01	762.2	65	18.3		SSW			1		7					D. clouds	George Carrick.
Armagh, Observatory			29.97	761.2	66.6	19.2		SE	16	7.2			5					D. clouds	S. Call.
Bidston, (Liverpool Obs.)			30.00	762.0	66.2	19.0		ESE	13	5.8			8					Overcast	John Hartnup.
Birr Castle, (Parsonstown)	29.70	754.4	29.89	759.2	64.5	18.1		SE			1		9					D. clouds	William Harding.
Bolton																			Thomas Mackereth.
Bradford, Yorkshire	29.65	753.1	30.04	763.0	66.0	18.9		E			1		4			0	0	D. clouds	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	82	27.8		NE			1		3					D. clouds	Pvt. G. W. Roberts, A. H. C.
Cambridge, Observatory			30.05	763.3	70.0	21.1		SE			1		1					D. clouds	H. Todd.
Cardington			30.06	763.5	67.0	19.4		S			1		7					Overcast	John McLaren.
Chatham, School M. E.	29.92	760.0	30.05	763.3	64.2	17.9		SE			2		7					D. clouds	Lt. W. G. Morris, R. E.
Dartmoor	28.50	723.9	29.93	760.2	62.0	16.7		W			4		7					Gloomy	Alexander Watt.
Donaghadee	29.97	761.2	30.00	762.0	63	17.2		SE			2		3					D. clouds	J. Mac Gowan.
Dover	30.01	762.2	30.04	763.0	65	18.3		E			2		4					½ clouded	J. Costello.
Eccles, (near Manchester)			30.02	762.5	68.5	20.3		SE	3.6	1.6			2					D. clouds	Thomas Mackereth.
Falmouth, Observatory	29.74	755.4	29.97	761.2	64.6	18.1		SSE			2		10					Overcast	The Staff.
Fort Napier, (Natal)	27.78	705.6	30.08	764.0	56.0	13.3		E			2		10					Overcast	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.69	754.1	29.92	760.0	80	26.7		SW			2		3					D. clouds	
Galway, Queen's College			29.82	757.4	62	16.7		SE			2		10					Showery	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.90	759.4	29.96	761.0	77.2	25.1		W			2		1					Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.82	757.4	30.02	762.5	60.3	15.7		ENE			1		10					Gloomy	D. G. Maclean.
Great Yarmouth	30.06	763.5	30.07	763.8	63	17.2		NE			2		0					Blue sky	G. T. Watson.
Greenwich, Royal Obs'y	29.86	758.4	30.03	762.7	66.4	19.1		E			1		10					Overcast	The Staff, for G. B. Airy.
Guernsey	29.79	756.7	30.00	762.0	63.5	17.5		SW			1		6					D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston			30.02	762.5	67	19.4		S			2		3c			0	0	Fine	M. P. Moyle.
Holyhead	29.93	760.2	29.98	761.5	68	20.0		SSW			2		5					Blue sky	John Tilston.
Jersey	29.76	755.9	30.05	763.3	65.6	18.7		WSW			2		7			Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory			30.03	762.7	66.5	19.2		E	10	4.5			9k					D. clouds	The Staff.
Kingstown	29.95	760.7	29.98	761.5	63	17.2		SSE			5		4					D. clouds	George Mitchell.
Leicester, Museum			30.04	763.0	64.7	18.2		E			1		2					D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.37?	746.0?	29.44?	747.8?	88.8	31.6		NW			1		0					Blue sky	H. J. Becket, A. H. C.
Nairn	29.96	761.0	30.04	763.0	60	15.6		NE			1		5					½ clouded	W. D. Penny.
Nassau, (Bahamas)			29.96	761.0	85.2	29.6		SW			1		7					D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.87	758.7	30.05	763.3	71.1	21.7		SE			3		3ck;k		SSE;ESE	0	0	Blue sky	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.52	749.8	30.03	762.7	64.7	18.2		E			3		2					D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y			30.02	762.5	65	18.3		E			1		10					Gloomy	H.E. Bellamy.
Plymouth	29.89	759.2	29.96	761.0	65.9	18.8		S			2		10					Overcast	John Merrifield
Roche's Point	29.85	758.2	29.89	759.2	66	18.9		SSE			4		8			Blank	Blank	Cloudy	W. Kennedy.
Saint Ann's Head	29.78	756.4	29.94	760.5	63	17.2		SE			4		5					D. clouds	John C. Walker.
Sandwick Manse, (Orkneys.			30.08	764.0	58	14.4		SE	5	2.2			8					D. clouds	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey			29.74	755.4	80.0	26.7		NE			1		0			0	0	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.79	756.7	30.06	763.5	65.1	18.4		E			1		2			0	0	Blue sky	W. F. Cooper.
Silloth Rectory	30.01	762.2	30.04	763.0	61.7	16.5	74	Calm			0		6					D. clouds	C. Edith Redford.
Stonyhurst, Observatory	29.64	752.8	30.05	763.3	66.5	19.2		ESE			1		9					D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.94	760.5	29.98	761.5	61	16.1		S			1		5						John Sutherland.
Stratfield Turgiss																			Rev. C. H. Griffith, F.M.S
Thurso			30.06	763.5	61	16.1		NE			1		7					D. clouds	John Trotter.
Truro, Royal Institution			29.99	761.7	68	20.0		S			3		6					D. clouds	W. Newcombe.
Valencia, Observatory			29.79	756.7	64.9	18.3		ESE	28	12.5			8					D. clouds	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)			29.95	760.7	59	15.0	76	NW			3		6k			0	0		Francis Abbott, F.R.A.S.
Leith, Restalrig Park																			Andrew Gibb.
Mauritius, Observatory	30.01	762.2	30.20	767.1	72.2	22.3	71	E	16.5	7.4		0	6		ESE	0.07	1.8	Squally	C. Meldrum.
Melbourne, Observatory	30.19	766.8	30.28	769.1	51.3	10.7	72	NE	12	5.4			0			0	0	Very fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)																			J. Youngclause.
North Unst, (Shetland Is.)																			Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Bar. Inches	Bar. Millimeters	Sea-level Inches	Sea-level Millimeters	Fahrenheit	Centigrade	Per cent	Wind From—	Miles per hour	Meters per second	Force	Clouds Up'er	Clouds Low'r	Upper From—	Lower From—	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather	Observer
S. S. Algeria																			Capt. W. Watson.
Brig Catherine, N. 46° 25', W. 52° 10'			29.55	750.6	63	17.2		S			2		6			4		Foggy	Capt. Alex. Wilson.
Barque Commewyne																			Capt. A. Buchan.
S. S. Gordon Castle																			Capt. W. Waring.
Barque Margaret Smith																			Capt. D. W. A. Qualle
S. S. Peruvian																			Capt. W. H. Smith, R. N.
Schooner Traveller,																			Capt. Alex Simpson. [R.
Barque Virginia																			Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount: the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			
San José	26.27	667.2			66.2	19.0	93	S			1.	3c	5s			0.5	13.		Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.85	758.2	29.90	759.4	65.1	18.4	48	NW			2		8						
Fanöe	29.91	759.8	29.93	760.3	61.3	16.3	60	NW			4		7						
Godthaab, (Greenland)	29.84	757.9	29.88	759.0	41.5	5.3	99	SSW			4		10						
Stykkisholm, (Iceland)	29.85	758.2	29.89	759.3	55.0	12.8	87	S			4		8						
Thorshavn, (Faröe)	30.03	762.8	30.07	763.7	53.4	11.9	60	W			2		5						
Vestervig	29.72	754.8	29.89	759.1	58.3	14.6	76	WNW			6		8						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.51	749.6	30.07	763.6	66.2	19	64	W			3		5			0.126	3.20	Cloudy	Collignon, Director.
Amiens, Normal School																			Bouvallet, Director.
Avignon, Normal School	29.91	759.8	29.99	761.8	73.4	25.8	48	N			2		0			0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.59	749.2	30.04	763.1	64.2	17.9	81	NNE			1		10			0.205	5.2	Raining	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.78	756.4	30.06	763.4	70.9	21.6	59	ESE			1		8			0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.19	741.5	30.08	763.9	65.1	18.4	78	S			2		2		SW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.54	750.3	30.08	764.0	66.2	19	81	W			1		5ks		W	0.335	8.5	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.71	754.5	29.95	760.7	69.4	20.8	68	SW			2		9		SW	0	0		The Staff.
Carcassonne, Normal School	29.60	751.7	29.99	761.7	78.8	26	43	NW			1		2		NW	0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.51	749.6	30.07	763.8	67.3	19.6	88	NW			2		7		SE	0.83	21.		M. Vergier, Director.
Châlons-sur-Marne, N. Sch	29.74	755.4	30.05	763.2	71.2	21.8	62	SE			1		5		NE	0.264	6.7	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.70	728.9	30.02	762.4	68.5	20.3	51	N			1				W	0.047	1.2		Alluard, Director.
Commercy, Normal School	29.20	741.7	30.06	763.4	66.2	19	75	NW			1		5kn		NW	0.469	11.9	Cloudy	Dr. Coulet, Director
Commune de Grèasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. Schoo	29.87	758.8	30.09	764.2	64.4	18.0	88	NW			1		5		NW	0.051	1.3	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.74	755.4	30.01	763.1	69.8	21.0	62	S			1		5		SW	0.089	2.25	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.19	741.5	30.07	763.7	74.5	23.6	58	SW			1		5		SW	0.016	0.40	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.95	760.7	30.05	763.2	68.4	20.2	69	S			3		8		S	0	0	¾ covered	T. Carré, Director.
Mâcon, Normal School					74.1	23.4	90	WNW			1		0			0.134	3.4	Clear	M. Galzin, Director
Mirecourt, Normal School	28.95	735.4	29.97	761.1	67.6	19.8	77	WSW			1		5k		W	0.43	11.	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.93	760.1	30.12	765.0	80.6	27.0	43	S			6		5		N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.99	734.0	29.92	760.0	72.3	22.4	47	S			4			N	S			Thunder-storm	M. Cantier.
Puy de Dome (Summit)	25.23	640.8			51.3	10.7	75	NW			2				E	0.177	4.5		Allnard, Director.
Rochefort, Naval Obs'y	30.02	762.5	30.05	763.3	73.4	23.0	65	SE			3		8		SE	0	0	¾ covered	M. Giguel, Director.
Rouen, Normal School	29.94	760.4	30.02	762.5	69.6	20.9	64	ENE			1		8		S	0.150	3.8	Very cloudy	F. Lucard, Director.
Saint Malo (Port)			30.02	762.5	65.8	18.8	81	NNW			2		8		NW	0.742	18.85	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	29.01	736.8	30.01	762.3	71.6	22.0	91	E			3		0			0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	81.0	27.2										0.47	12.		L'Abbé Marchès.
Lyons			30.02	762.5	89.8	32.1	31					0				0	0		L. Jays.
Marseilles, Observatory			29.94	760.9	78.3	25.7	41	W			2	2				0	0	Slightly cl'dy	The Staff.
Mont-Louis	24.97	634.2	30.28	769.2	68.0	20.0	40	W	24.2	10.83		2			S	0	0		M. Cave.
Nice			29.92	760.0	77.4	25.2	80	S			2	0				0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.75	755.6	30.02	762.6	67.3	19.6	75	E			1	9				0.126	3.2		Marié Davy, Director
Perpignan			30.02	762.4	78.1	25.6	53	SE	11.2	5.00		3			NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P																			M. Bavlac.
Pic du Midi, (Plantade,) H. P																			
Saint Maur, (near Paris)	22.62	574.6			55.0	12.8		SW			8	2				0	0	Clear	Gen'l de Nansou y
Toulouse, Observatory	29.87	758.7	30.04	762.9	67.6	19.8	72	NNW			0-1	10		WSW	SW	0.043	1.1		E. Renou.
Tours	29.33	745.0	30.06	763.4	71.6	22.0	45	ENE			2	4				0	0		The Staff.
Versailles	29.63	752.5	29.82	757.5	69.1	20.6	73	E			1	10			W	0.031	0.8		C. Marquet.
Zi-Ka-Wei, (near Shanghai)			30.01	763.0	69.1	20.6	54	NNE			1	10				0.395	10.02	Lt. shower	Dr. A. Bérigny.
	29.72	754.8	29.74	755.5	77.9	25.5	96	Calm	0	0		Skn				0.016	0.4	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published: at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0-10	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0-10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.06?	738.1?	29.89?	759.1?	70.0	21.1	73	NW	.....	.....	1	.....	5	W	....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.82	757.5	29.99	761.8	65.3	18.5	60	W	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.45	748.0	29.93	761.5	64.4	18.0	98	W	.....	.....	3	.....	6	.....	.....	Inap.	Inap.	Sprinkling..	Royal University Obs'y
Carlsruhe	29.61	752.1	30.03	762.8	65.8	18.8	62	E	.....	.....	1	.....	1	.....	.....	0	0	.....	Albert Senz.
Cassel	29.45	747.9	30.05	763.3	65.1	18.4	46	NW	.....	.....	4	.....	8	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.89	759.1	30.05	763 2	64.6	18.1	46	N	.....	.....	3	.....	5k	.....	.....	0	0	.....	Director Lose.
Emden	29.97	761.1	30.00	762.1	63.5	17.5	57	NW	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.76	754.4	30.06	763 5	67.3	19.6	.....	NNE	.....	.....	2	.....	4	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.63	727.1	30.04	762.9	62.2	16.8	85	SW	.....	.....	2	.....	6	WSW	.....	0.059	1.5	.....	M. Wilhelm.
Hamburg	29.93	760.3	30.00	762.1	62.1	16.7	74	WSW	.....	.....	2	.....	10	.....	.....	0	0	Dust-Haze..	Captain F. Hegemann.
Kiel	29.94	760.5	29.96	760.9	65.8	18.8	58	SW	.....	.....	2	.....	8	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.72	754.8	29.80	756 8	63.7	17.6	53	W	.....	.....	2	.....	4	.....	.....	0.059	1.5	.....	Prof. E. Luther.
Köslin	.....	.....	29.87	758.6	60.4	15.8	.....	NW	.....	.....	4	.....	2	.....	.....	0.047	1.2	.....	H. Müller.
Leipsic, Observatory	29.62	752.4	30.03	762.8	66.2	19.0	41	WNW	.....	.....	2	.....	7	W	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.73	755.1	29.78	756.3	61.0	16.1	59	NW	.....	.....	4	.....	5ck;s	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.85	758.3	29.87	758.7	63.3	17.4	64	WNW	.....	.....	3	.....	9	.....	.....	0.051	1.3	.....	A. Lothes.
Posen	29.68	753.9	29.97	761.1	59.0	15.0	72	NW	.....	.....	2	.....	10	.....	.....	0.004	0.1	.....	Dr. Magener.
Strassburg (in Alsace)	29.53	750.0	30.07	763 6	68.4	20.2	72	NE	.....	.....	1	.....	4	NW	.....	0.579	14.70	.....	Astronomical Observatory.
Stuttgart	29.10	739.2	30.02	762.6	65.3	18.5	67	N	.....	.....	1	.....	5	N	.....	0	0	.....	Prof. Schoder.
Treves, (Trier)	29.53	750.1	30.06	763.4	68.9	20.5	42	N	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.55	725.1	30.01	762.2	62.1	16.7	65	SSW	0.4	0.2	.....	.....	10	.....	W	0.106	2.7	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.94	760.5	29.98	761.5	65.1	18.4	71	W	.....	.....	3	.....	3	.....	.....	0.028	0.7	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.42	747.2	29.79	756.7	85.1	29.5	.....	SW	.....	.....	2.0	.....	.....	.....	.....	.....	.....	Clear.	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.24	742.8	29.71	754.7	85.5	29.7	79	SW	.....	.....	.....	.....	9	.....	.....	0	0	D. clouds.....	
Bombay	29.73	755.1	29.77	756.1	80.8	27.1	89	W	5	2.2	.....	.....	10	.....	S	0.15	3.8	Overcast	
Poona	27.81	706.4	29.82	757.4	76.0	24.4	86	WSW	.....	.....	.....	.....	10	.....	WSW	0	0	Overcast.....	
Lahore	28.93	734.9	29.66	753.5	85.0	29.4	70	NE	2.1	0.9	.....	.....	2	.....	.....	0	0	Blue sky.....	
Belgaum	27.29	693.2	29.84	757.8	74.1	23.4	89	WSW	8	3.6	.....	.....	9	E	WSW	0	0	D. clouds.....	
Roorkee	28.75	730.3	29.64	752 8	85.2	29.6	81	SW	4.3	1.9	.....	.....	9	.....	.....	2.18	55.4	Gloomy.....	
Agra	29.08	738.5	29.63	752.5	91.7	33.2	64	SE	.....	.....	.....	.....	10	.....	SE	0	0	.....	
Nagpur	28.63	727.1	29.66	753.4	80.1	26.7	83	SW	3.6	1.6	.....	.....	10	.....	W	0.50	12.7	Overcast.....	
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Allahabad	29.35	745.4	29.66	753 2	82.5	28.1	90	E	1.1	0.5	.....	.....	10	.....	E	0	0	Gloomy.....	
Patna	29.51	749.6	29.69	754.1	85.6	29.8	83	E	2.5	1.1	.....	.....	8	E	E	0	0	Lightning...	
Hazaribagh	27.68	703.2	29.68	753.8	81.3	27.4	77	ESE	1.0	4.5	.....	.....	8	W	SE	0.03	0.8	Thunder storm..	
Cuttack	29.58	751.3	29.66	753.3	84.3	29.1	72	ENE	1.9	0 8	.....	.....	5	.....	.....	0	0	D. clouds.....	
Calcutta (Alipore)	29.69	754.1	29.71	754.7	83.2	28.4	83	SE	6.0	2.7	.....	.....	6	.....	SE	0	0	D. clouds.....	
Goalpara	29.34	745.4	29.73	755.1	84.8	29.3	83	SW	4.8	2.2	.....	.....	2	.....	.....	0.15	3.8	D. clouds.....	
Chittagong	29.69	754.2	29.78	756.5	82.9	28.3	87	SSW	4.2	1.9	.....	.....	10	.....	.....	0	0	Gloomy.....	
Sibsagar	29.41	747.0	29.74	755.3	88.4	31.3	79	S	2.1	0.9	.....	.....	10	W	W	0	0	D. clouds.....	
Jubbulpore	28.34	719.7	29.69	754.1	81.8	27.7	79	N	3.7	1.6	.....	.....	10	.....	.....	0	0	Overcast.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.54	750.2	29.95	760.2	75.2	24.0	48	Calm	0	0	.....	.....	7	.....	.....	0.465	11.8	.....	Prof. Giovanni Clodig.
Padua	29.82	757.3	29.92	760.0	77.2	25.1	50	SSE	8.1	3.6	.....	.....	1	W	.....	0.012	0.3	.....	Prof. Dott. Lorenzoni
Vicenza	29.73	755.1	29.91	759.8	78.4	25.8	50	S	3.8	1.7	.....	.....	3	W	.....	0.087	2.2	.....	Conte Alm. Da Schio.
Bergamo	28.60	726.3	29.87	758.8	78.8	26.0	55	SSW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.39	746.4	29.88	759.0	77.2	25.1	59	ESE	.....	.....	2	.....	3	WNW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.01	736.9	29.88	759.0	81.7	27.6	39	ESE	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.04	712.1	29.87	758.6	79.0	26.1	27	N	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.71	754.5	29.92	759.9	80.6	27.0	64	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.75	755.6	29.91	759.8	78.1	25.6	66	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.59	751.6	29.89	759.3	81.3	27.4	35	NE	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.64	752.9	29.89	759.2	85.1	29.5	38	W	.....	.....	2	.....	3	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.82	757.4	29.99	759.5	79.3	26.3	63	W	4.3	1.9	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.41	721 5	29.89	759.2	73.6	23.1	44	NE	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.72	754.8	29.89	759.1	86.4	30.2	40	SW	7.4	3.3	.....	.....	2	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.73	755.2	29.92	760.0	82.6	28.1	59	SSW	.....	.....	4	.....	4	W	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.582	751 33	29.832	757.62	83.5	28.6	45	ESE	6.3	2.8	.....	.....	2	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.77	756.1	29.96	760.9	87.1	30.6	24	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.06	738.2	29.91	759.6	86.0	30.0	57	SW	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.72	755.0	29.97	761 3	83.5	28.6	34	WSW	12.5	5.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.88	758.9	29.96	760.9	81.1	27.3	60	NE	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.40	746.7	29.95	760.8	81.1	27.3	63	WSW	4.9	2.2	.....	.....	2	W	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.58	751.3	29.78	756.4	78.7	25.9	73	ESE	8.2	3.7	.....	.....	1s	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) Observatory	29.86	758.4	29.93	760.2	74.7	23.7	92	SSW	6.8	3.0	.....	0	0	.....	.....	0	0	Clear	
Tokei (Yeddo) University	29.83	757.7	29.92	759.9	76	24.4	95	S	6	2.7	.....	.....	1k;8	.....	.....	0	0	Fine	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	62.0	16.7	91	N	0.9	0.4	.....	0	10n	.....	.....	0.02	0.6	Cloudy	L. Castillo, A. E.
Guadalajara	25.02	635.6	29.96	761.0	59.0	15.0	88	SE	0.9	0.4	.....	0	10ks	.....	S	Inap.	Inap.	Covered	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	3.6	.....	Prof. V. Fernandez
Leon	24.24	619.6	29.92	759.9	62.2	16.8	68	E	0.9	0.4	.....	0	10n	.....	.....	0.63	16.6	Covered	Prof. M. Leal.
Mexico	23.10	586.7	30.09	764.2	55.4	13.0	94	Calm	0	0	.....	0	10k	.....	.....	0.20	5.0	Covered	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	60.8	16.0	94	SE	1.8	0.8	.....	0	10n	.....	SE	0.24	6.1	Rainy	M. V. de Leon, M. E
Puebla	23.35	593.2	30.00	762.0	56.3	13.5	85	SSE	2.9	1.3	.....	0	10n	.....	.....	0.01	0.3	Covered	Prof. B. Gonzalez.
Tlacotalpam	29.87	758.8	29.88	759.1	80.6	27.0	88	S	0.9	0.4	.....	7ck	0	.....	.....	0	0	Cloudy	Prof. F. R. Bayly.
San Luis Potosi	24.16	612.9	30.07	763.4	61.0	16.1	56	ESE	0.9	0.4	.....	0	10	.....	SE	1.31	33.3	Covered	G. Barroeta, M. D.
Vera-Cruz	29.88	759.0	29.91	759.7	82.4	28.0	85	Calm	0	0	.....	4c	4k	.....	.....	0	0	Cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	SE	5.1	2.3	.....	0	10	.....	.....	0	0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.6	30.00	762.0	55.4	13.0	85	ESE	2.5	1.1	.....	5	4	.....	.....	0.06	1.5	Cloudy	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.36	720.3	30.01	762.3	74.3	23.5	90	Calm	0	0	.....	0	10	.....	.....	5.12	130.0	Raining	R. Banda, C. E.
San Juan E. Michapam	29.68	753.8	29.82	757.5	79.7	26.5	.....	Calm	0	0	.....	0	2k	.....	SE	0	0	Clear	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.08	764.1	30.08	764.1	70.9	21.6	.....	SE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Groningen	29.99	761.7	30.04	763.1	62.8	17.1	.....	NNW	.....	.....	2	.....	.....	.....	.....	0.024	0.6	.....	
Helder	30.06	763.5	30.06	763.5	62.6	17.0	.....	NW	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.04	763.1	30.04	763.1	68.2	20.1	61	NW	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.02	762.6	30.07	763.8	64.6	18.1	62	NNW	.....	.....	2	.....	5	.....	.....	0	0	Cloudy	H. v d Brink.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.81	757.2	29.87	758.6	60.4	15.8	59	NNW	7.2	3.2	.....	.....	0	.....	.....	0	0	.....	
Brônø	29.85	758.1	29.89	759.1	48.6	9.2	81	S	4	2	.....	.....	10	.....	.....	0.291	7.4	.....	
Christiania	29.68	753.8	29.82	757.4	64.2	17.9	50	SW	4	2	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.67	753 5	29.71	754.6	50.7	10.4	58	SW	9	4	.....	.....	10	.....	.....	0.055	1.4	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.92	759.9	30.10	764.6	74.8	23.8	80	W	10.5	4.7	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.4	29.96	761.0	86.0	30.0	23	SSW	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.03	762.8	30.12	765 0	79.0	26.1	70	SW	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.05	763.2	74.3	23 5	43	N	11.2	5.0	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.09	764.3	30.12	765.0	80.6	27.0	67	W	11.9	5.3	.....	.....	5	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 34° 05′, W. 18° 48′	.....	.....	30.13	765.4	75.7	24.3	.....	NNE	.....	.....	4	.....	6	.....	NNE	4	.....	D. clouds.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd. J. F. R. R. Bastos, Com'd't.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.04	763.0	68.9	20.5	.....	SW	.....	.....	1	.....	0	.....	.....	1	.....	Blue sky.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 23° 34′	.....	.....	29.86	758.5	86.0	30.0	.....	NE	.....	.....	2	.....	9	.....	.....	2	NE	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	30.02	762.6	72.1	22.3	.....	WNW	.....	.....	1	.....	10	.....	E	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't. E. Ivos do Rio.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.46	748.2	29.87	758.7	62.2	16.8	68	W	11	5	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.33	744.9	29.73	755.2	62.8	17.1	55	W	7	3	.....	.....	4	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.25	742.9	29.48	748.9	60.3	15.7	52	W	13	6	.....	.....	3k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.34	745.2	29.35	745.6	59.0	15.0	71	SW	11	5	.....	.....	8kn	.....	.....	.....	.....	.....	Central Physical Obs. Ch. Forsten.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kieff	29.11	739.3	29.71	754.7	72.5	22.5	50	NW	9	4	.....	.....	7ck	.....	.....	.....	.....	.....	Kurdakof.
Nikolaiev	29.73	755.1	29.80	756.9	83.1	28.4	52	W	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Lagorio.
Kertch	29.82	757.3	29.84	757.8	79.9	26.6	77	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Moscow	29.12	739.7	29.66	753.3	60.6	15.9	91	S	9	4	.....	.....	10s	.....	.....	.....	.....	Raining.....	Meteorological Obs.
Lugan	29.51	749.5	29.70	754.4	86.9	30.5	34	S	4	2	.....	.....	9s	.....	.....	.....	.....	.....	Ogorodnikof.
Archangel	29.58	751.4	29.60	751.9	62.4	16.9	72	SSE	2	1	.....	.....	8k	.....	.....	.....	.....	.....	Physical Observatory.
Tiflis	28.54	724.9	29.87	758.6	88.3	31.3	41	E	4	2	.....	.....	2c	.....	.....	.....	.....	Light clouds	Sebastianof.
Astrakhan	30.04	763.0	29.96	760.9	81.3	27.4	43	E	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Cand. Fatjanow.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Cabinet.
Kasan	29.57	751.0	29.82	757.5	72.3	22.4	61	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Tschernischef.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Ekaterinburg	28.67	728.1	29.59	751.6	55.6	13.1	87	NW	18	8	.....	.....	10	.....	.....	.....	.....	.....	
Nukuss	29.47	748.5	29.69	754.1	81.1	27.3	42	NNW	11	5	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Tashkend	28.27	718.0	29.86	758.5	85.3	29.6	62	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Barnaul	29.20	741.6	29.68	753.8	89.1	31.7	38	SE	4	2	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Yeniseisk	29.65	753.1	29.93	760.2	68.2	20.1	56	ESE	4	2	.....	.....	1	.....	.....	.....	.....	.....	Usolzef.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Physical Observatory.
Peking, (China)	29.66	753.4	29.80	757.0	68.5	20.2	97	Calm	0	0	.....	.....	9n	.....	.....	Blank	Blank	.....	Meteorological Obs.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.91	759.7	30.01	762.3	80.6	27	68	SE	1.3	0.6	.....	.....	2c	.....	.....	0	0	Clear.	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.89	759.3	29.95	760.7	77.2	25.1	65	SE	2.2	0.99	.....	3	5	W	.....	0	0	Almost cov.	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.08	687.7	.....	.....	78.1	25.6	47	SE	6.1	2.72	.....	.....	.....	.....	.....	0	0	Clear.....	Domingo Martin y Perez
Madrid, Royal Observatory	27.77	705.4	29.85	758.2	89.4	31.9	33	SW	14.2	6.33	.....	0	1	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.82	757.5	29.97	761.1	91.0	32.8	48	ENE	4.3	1.94	.....	.....	.....	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y	29.09	738.8	29 96	761.0	69.1	20.6	68	SSW	11.8	5.28	.....	.....	3	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.93	760.1	29.99	761.8	81.2	27.3	83	E	2.9	1.3	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J. Federico Faura, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
San Fernando, Naval Obs'y	29.93	760.2	30.02	762.6	80.4	26.9	57	WSW	9.4	4.2	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.93	760.3	30.02	762.6	85.3	29.6	80	SE	3.9	1.76	.....	1c	2k	SE	SE	0	0	Clear.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.69	754.0	29.72	755.0	53.6	12.0	.....	NE	.....	.....	4	.....	8	.....	.....	0	0	.....	
Umea	29.68	753.8	29.73	755.1	55.4	13.0	66	NE	.....	.....	4	.....	9	.....	.....	0	0	.....	
Hernosand	29.66	753.3	29.71	754.6	61.2	16.2	43	N	.....	.....	4	.....	3	.....	.....	0.421	10.7	.....	
Stockholm	29.58	751.2	29.75	755.7	54.9	12.7	67	NW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Wisby	29.67	753.5	29.72	755.0	58.6	14.8	66	NW	.....	.....	7	.....	5	.....	.....	0.299	7.6	.....	
Sub-Series.																			
Upsala	29.68	753.8	29.75	755.7	55.4	13.0	71	N	11.9	5.3	.....	.....	10	.....	NNW	0.004	0.09	.....	Nils Ekholm.

Note.—The origin ls give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.62	727.0	30.01	762.3	67.1	19.5	53	N	.....	.....	1	.....	3	.....	.....	0.008	0.2	Cloudy.....	The Observatory.
Zurich	28.45	722.7	30.07	763.6	61.9	16.6	85	NW	.....	.....	1	.....	9	.....	.....	0.134	3.4	Cloudy	The Observatory.

Note.—At Geneva the correspon ding departures from the normal values are: Barometer, —0.8 mm.; Thermometer, —1.8 cent.; Relative Humidity, —3 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.81	757.2	81.1	27.3	64	ENE	7	3.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.99	761.8	83.8	28.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.73	755.1	29.84	757.9	88.7	31.5	68	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.56	750.8	29.63	752.6	61.9	16.6	82	N	10	4.5	.....	.....	9n	.....	.....	0	0	Cloudy.....	Hon. J. Ferguson.
Brockville, Ontario	29.55	750.6	29.84	757.9	68	20.0	.....	N	1	0.4	.....	2c	0	NE	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.53	750.0	29.59	751.6	61	16.1	82	N	11	4.9	.....	.....	10s	.....	W	0.64	16.3	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.37	746.0	29.41	747.0	57	13.9	91	NW	18	8.0	.....	.....	10n	.....	Calm	0.230	5.84	Light rain...	H. J. Cundall, C. E.
Cornwall, Ontario	29.62	752.3	29.81	757.2	64.0	17.8	89	N	.....	.....	1	.....	10s	.....	.....	Inap.	Inap.	Overcast.....	James Smith, M. A.
Dalhousie, N. B	29.49	749.0	29.65	753.1	61.5	16.4	85	W	.....	.....	1	.....	.....	.....	.....	0.10	2.5	Gloomy.....	H. A. Johnson.
Esquimault, B. C	29.76	755.9	29.81	757.2	55.2	12.9	93	Calm	.....	.....	.....	.....	9cs	0	.....	0	0	Cloudy.....	W. H. Bevis.
*Father Point, Quebec	29.72	754.9	29.74	755.4	53	11.7	86	N	10	4.5	.....	.....	5k	5s	NE	NE	0.07	1.8	Cloudy.....	J. McWilliams.
Fredericton, N. B	29.56	750.8	29.62	752.3	64.1	17.8	78	NE	4	1.8	.....	.....	.....	10n	.....	.....	0.065	1.65	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.00	736.6	29.78	756.4	72	22.2	95	S	8	3.6	.....	.....	5k	2ks	SW	SW	0	0	Cloudy.....	James Stewart.
Granton, Ontario	28.90	734.0	29.97	761.2	63	17.2	94	N	.....	.....	1	.....	1k	0	SE	.....	0	0	Clear.	James Grant.
*Halifax, N. S	29.34	745.2	29.47	748.5	62	16.7	89	NW	11	4.9	.....	.....	.....	8ks	.....	NW	0.221	5.62	Cloudy.....	F. Allison, M. A.
Hamilton, Ontario	29.60	751.8	29.96	761.0	65.7	18.7	74	W	.....	.....	1	1c	0	NE	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.49	749.0	29.52	749.8	69	20.6	79	SW	.....	.....	1	0	2s	.....	.....	0.15	3.8	Fine.....	E. Weedon.
*Kingston, Ontario	29.53	750.0	29.85	758.2	67	19.4	87	N	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.33	745.0	29.36	745.7	60.0	15 6	.....	SW	8	3.6	.....	.....	10n	.....	.....	0.05	1.3	Overcast.....	C. H. Rigby.
*Montreal, Quebec	29.60	751.8	29.79	756.7	66	18.9	72	W	16	4.5	.....	10c	0	Calm	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.32	744.7	29.99	761.7	64	17.8	90	N	12	5.4	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.18	741.2	29.90	759.4	67.2	19.6	69	NW	.....	.....	5	0	0	.....	.....	0	0	Fine.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.27	743.4	29.95	760.7	63	17.2	89	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	29.30	744.2	29.35	745.5	58.7	14.8	.....	NW	8	3.6	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.32	744.7	29.95	760.7	63	17.2	90	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	M. Payne.
*Quebec, Quebec	29.46	748.3	29.77	756.1	66	18.9	74	E	.....	.....	2	2cs	2ks	E	E	0.09	2.3	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.51	749.5	29.96	761.0	66	18.9	74	W	4	1.8	.....	.....	5s	.....	N	0	0	Fair...	W. H. McIntyre.
St. Andrews, N. B	29.55	750.6	29.60	751.8	66	18.9	81	N	3	1.3	.....	5k	5ks	N	.....	0.05	1.3	Cloudy.....	Dr. Gove.
St. John, N. B	29.42	747.3	29.58	751.3	63	17.2	83	NW	12	5.4	.....	0	7ks	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.31	744.5	30.00	762.0	66	18.9	79	NE	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	K. Stewart.
Stayner, Ontario	29.20	741.7	29.94	760.5	69	20.6	74	N	9	4.0	.....	2k	0	N	.....	0	0	Fair	R. J. Cole.
Stratford, Ontario	28.69	728.7	29.95	760.7	62.0	16.7	87	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear.....	C. J. MacGregor, M. A.
*Sydney, C. B	29.31	744.5	29.34	745.2	61	16.1	86	SW	12	5.4	.....	.....	10n	.....	SW	0.02	0.5	Cloudy.....	T. C. Hill.
*Toronto, Ontario	29.58	751.3	29.95	760.7	66	18.9	70	N	13	5.8	.....	0	0	.....	.....	0	0	Clear.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.0	16.1	94	SE	.....	.....	.....	Fog	Fog	.....	.....	0	0	Foggy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0–10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.54	750.3	29.76	755.9	67	19.4	82	NW	4	1.8	.....	.....	10ks	.....	NW	0	0	Cloudy	
Alpena, Michigan	29.39	746.5	30.01	762.2	67	19.4	74	N	1	0.4	.....	0	Haze	.....	.....	0	0	Clear	
Atlantic City, New Jersey	29.74	755.4	29.75	755.6	69	20.6	79	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.68	753.9	29.85	758.2	78	25.6	86	NW	4	1.8	.....	.....	10s	.....	W	0.01	0.3	Cloudy	
Baltimore, Maryland	29.76	755.9	29.81	757.2	71	21.7	66	NW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Barnegat, New Jersey	29.73	755.1	29.75	755.6	70	21.1	75	N	14	6.3	.....	2ck	0	NW	.....	0	0	Fair	
Bismarck, Dakota	28.03	711.9	29.88	758.9	74	23.3	100	S	12	5.4	.....	.....	10n	.....	S	0.20	5.1	Thunder-storm	
Boerne, Texas	28.46	722.9	.....	.....	72	22.2	85	SE	2	0.9	.....	5k	0	S	.....	1.33	33.8	Fair	
Boise City, Idaho	27.01	686.0	29.97	761.2	55	12.8	80	SE	4	1.8	.....	0	0	.....	.....	6	0	Clear	
Boston, Massachusetts	29.56	750.8	29.71	754.6	69	20.6	75	W	7	3.1	.....	5k	5s;fg	N	NE;Calm	Inap.	Inap.	Cloudy	
Brackettville, Texas	28.76	730.5	29.75	755.6	74	23.3	90	E	4	1.8	.....	.....	10s	.....	Calm	0.15	3.8	Cloudy	
Breckenridge, Minnesota	28.88	733.5	29.83	757.7	69	20.6	100	SE	15	6.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Brownsville, Texas	29.85	758.2	29.92	760.0	76	24.4	90	E	5	2.2	.....	.....	10n	.....	E	1.69	42.9	Light rain	
Buffalo, New York	29.22	742.2	29.89	759.2	66	18.9	74	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	85	29.4	79	Calm	.....	.....	0	5cs	5s	NW	Calm	0.90	22.9	Cloudy	
Burlington, Vermont	29.54	750.3	29.79	756.7	65	18.3	78	N	6	2.7	.....	.....	10s	.....	N	0.07	1.8	Cloudy	
Cairo, Illinois	29.53	750.0	29.90	759.4	78	25.6	91	NE	3	1.3	.....	.....	10s	.....	NE	0.33	8.4	Cloudy	
Camp Apache, Arizona	.....	.....	.....	.....	66	18.9	94	Calm	.....	.....	0	.....	10n	.....	Calm	Blank	Blank	Heavy rain	
Camp Grant, Arizona	25.04	636.0	29.84	757.9	69	20.6	90	Calm	.....	.....	0	.....	Fog	.....	Calm	0.78	19.8	Foggy	
Camp Verde, Arizona	26.59	675.4	30.08	764.0	70	21.1	90	Calm	.....	.....	0	10cs	0	Calm	.....	0.19	4.8	Cloudy	
Campo, California	27.21	691.1	29.78	756.4	49	9.4	93	Calm	.....	.....	0	.....	Fog	.....	Calm	0	0	Foggy	
Cape Hatteras, N. Carolina	29.78	756.4	29.79	756.7	78	25.6	73	NE	9	4.0	.....	2cs	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	29.79	756.7	29.82	757.4	77	25.0	69	NW	11	4.9	.....	5c	2s	SW	Calm	0	0	Fair	
Cape Lookout, N. Carolina	29.77	756.1	29.78	756.4	80	26.7	78	N	10	4.5	.....	8ck	0	NW	.....	0.07	1.8	Cloudy	
Cape May, New Jersey	29.75	755.6	29.78	756.4	72	22.2	67	N	22	9.8	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	29.12	739.6	29.79	756.7	76	24.4	91	SE	4	1.8	.....	0	8s	.....	SE	0	0	Threatening	
Charleston, South Carolina	29.81	757.2	29.87	758.7	80	26.7	78	W	4	1.8	.....	5cs	5s	W	W	0	0	Cloudy	
Cheyenne, Wyoming	24.01	609.8	29.95	760.7	60	15.6	88	NW	6	2.7	.....	5cs	0	W	.....	0.03	0.8	Fair	
Chicago, Illinois	29.28	743.7	29.93	760.2	72	22.2	80	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.28	743.7	29.90	759.4	68	20.0	79	NE	5	2.2	.....	1k	0	E	.....	0.24	6.1	Clear	
Cleveland, Ohio	29.24	742.7	29.93	760.2	71	21.7	71	N	5	2.2	.....	1k	0	NE	.....	0	0	Clear	
Coleman City, Texas	28.17	715.5	29.76	755.9	74	23.3	68	Calm	0	0	.....	.....	10ks	.....	SE	0	0	Cloudy	
Columbus, Ohio	29.12	739.6	29.93	760.2	65	18.3	83	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.04	712.2	29.65	753.1	69	20.6	94	E	4	1.8	.....	.....	10s	.....	E	0	0	Cloudy	
Corsicana, Texas	29.48	748.8	29.93	760.2	74	23.3	95	S	1	0.4	.....	5k	0	S	.....	0	0	Fair	
Davenport, Iowa	29.34	745.2	29.96	761.0	68	20.0	84	E	5	2.2	.....	4k	0	E	.....	Inap.	Inap.	Fair	
Denison, Texas	29.14	740.1	29.90	759.4	77	25.0	86	S	6	2.7	.....	2cs	0	S	.....	0	0	Fair	
Denver, Colorado	24.74	628.4	29.96	761.0	63	17.2	83	S	4	1.8	.....	0	2s	.....	Calm	0.05	1.3	Clear	
Des Moines, Iowa	29.04	737.6	29.86	758.4	78	25.6	78	E	5	2.2	.....	.....	10s	.....	E	0.02	0.5	Cloudy	
Detroit, Michigan	29.32	744.7	29.97	761.2	64	17.8	89	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.31	693.7	29.46	748.3	74	23.3	72	S	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.29	744.0	29.96	761.0	66	18.9	79	E	4	1.8	.....	5k	Fog	E	Calm	0	0	Cloudy	
Duluth, Minnesota	29.36	745.7	30.01	762.2	64	17.8	89	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Eagle Pass, Texas	29.12	739.6	29.83	757.7	74	23.3	95	E	2	0.9	.....	.....	10s	.....	Calm	0.59	12.7	Cloudy	
Eastport, Maine	29.53	750.0	29.60	751.8	64	17.8	83	NW	10	4.5	.....	5k	5s	N	NW	0.07	1.8	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	77	25.0	100	E	.....	.....	4	.....	10ks	.....	.....	4.40	111.8	Cloudy	
El Paso, Texas	.....	.....	.....	.....	81	27.2	58	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.22	742.2	29.90	759.4	70	21.1	70	W	9	4.0	.....	2k	0	NE	.....	0	0	Fair	
Escanaba, Michigan	29.42	747.3	30.06	763.5	62	16.7	83	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Florence, Arizona	.....	.....	.....	.....	78	25.6	82	Calm	.....	.....	0	.....	10s	.....	W	0.40	10.2	Cloudy	
Fort Craig, New Mexico	25.42	645.7	29.48	748.8	73	22.8	76	S	4	1.8	.....	2c	5s	Calm	S	0.02	0.5	Cloudy	
Fort Davis, Texas	25.15	638.8	30.11	764.8	68	20.0	79	NW	3	1.3	.....	2k	0	S	.....	0.04	1.0	Fair	
Fort Gibson, Indian Ter	29.34	745.2	29.84	757.9	79	26.1	87	SE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.67	728.2	29.89	759.2	72	22.2	85	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.72	704.1	29.55	750.6	75	23.9	86	E	2	0.9	.....	0	Haze	.....	.....	0.09	2.3	Hazy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.70	729.0	29.75	755.6	76	24.4	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.17	715.5	29.66	753.4	75	23.9	77	Calm	0	0	.....	0	2ks	.....	Calm	0	0	Fair	
Galveston, Texas	29.88	758.9	29.92	760.0	82	27.8	83	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Graham, Texas	28.74	730.0	29.74	755.4	76	24.4	77	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Grand Haven, Michigan	29.39	746.5	30.02	762.5	66	18.9	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.18	741.2	29.93	760.2	68	20.0	79	NE	6	2.7	.....	0	0	.....	.....	0.04	1.0	Clear	
Indianola, Texas	29.90	759.4	29.93	760.2	82	27.8	83	E	9	4.0	.....	5k	1ks	SE	Calm	0.45	11.4	Fair	
Jacksboro, Texas	28.81	731.8	29.88	758.9	75	23.9	77	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.86	758.4	29.88	758.9	85	29.4	76	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Keokuk, Iowa	29.28	743.7	29.86	758.4	72	22.2	80	E	9	4.0	.....	0	2s	.....	Calm	0	0	Fair	
Key West, Florida	29.96	761.0	29.99	761.7	85	29.4	72	S	4	1.8	.....	1k	1ks	Calm	Calm	0	0	Clear	
Kittyhawk, North Carolina	29.75	755.6	29.78	756.4	76	24.4	91	NE	12	5.4	.....	8cs	0	W	.....	0	0	Fair	
Knoxville, Tennessee	28.90	734.0	29.85	758.2	72	22.2	90	Calm	0	0	.....	.....	10ks	.....	N	1.02	25.9	Cloudy	
La Crosse, Wisconsin	29.27	743.4	29.98	761.5	67	19.4	79	E	3	1.3	.....	2c	0	E	.....	0	0	Clear	
La Mesilla, New Mexico	25.95	659.1	30.10	764.5	70	21.1	75	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Laredo, Texas	29.40	746.7	29.72	754.9	77	25.0	91	E	4	1.8	.....	5cs	0	Calm	.....	0.52	13.2	Fair	
Lead City, Dakota	24.75	628.6	30.02	762.5	68	20.0	70	S	12	5.4	.....	5c	0	S	.....	0	0	Fair	
Leavenworth, Kansas	28.98	736.1	29.76	755.9	78	25.6	86	SE	1	0.4	.....	5c	0	Calm	.....	0	0	Fair	
Los Angeles, California	29.44	747.8	29.76	755.9	64	17.8	80	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.36	745.7	29.90	759.4	70	21.1	70	N	9	4.0	.....	0	0	.....	.....	1.13	28.7	Clear	
Lynchburg, Virginia	29.18	741.2	29.83	757.7	74	23.3	72	W	1	0.4	.....	0	2ks	.....	Calm	0	0	Clear	
Marquette, Michigan	29.36	745.7	30.05	763.3	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Mason, Texas	28.29	718.6	29.96	761.0	75	23.9	90	SE	1	0.4	.....	.....	10s	.....	SE	0.05	1.3	Cloudy	
Memphis, Tennessee	29.60	751.8	29.90	759.4	82	27.8	83	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Milwaukee, Wisconsin	29.28	743.7	29.99	761.7	65	18.3	89	Calm	0	0	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.90	759.4	29.94	760.5	80.5	26.9	85	SW	4	1.8	.....	5c	0	Calm	.....	Inap.	Inap.	Fair	
Montgomery, Alabama	29.68	753.9	29.90	759.4	89	26.7	78	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Morgantown, West Virginia	28.88	733.5	29.89	759.2	65	18.3	84	Calm	0	0	.....	2k	Fog	Calm	Calm	0	0	Clear	
Mt. Washington, N. H.	23.68	601.5	30.04	763.0	44	6.7	100	N	23	10.3	.....	.....	Fog	.....	N	2.11	63.6	Foggy	
Nashville, Tennessee	29.37	746.0	29.87	758.7	77	25.0	86	E	2	0.9	.....	.....	10s	.....	N	0.25	6.3	Cloudy	
New Haven, Connecticut	29.63	752.6	29.74	755.4	71	21.7	75	NW	9	4.0	.....	5ck	0	W	.....	0	0	Fair	
New London, Connecticut	29.67	753.6	29.71	754.6	74	23.3	68	N	5	2.2	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	81	27.2	83	SW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.65	753.1	29.69	754.1	70	21.1	80	NW	7	3.1	.....	1k	0	NW	.....	Inap.	Inap.	Clear	
New York, New York	29.60	751.8	29.77	756.1	71	21.7	71	NW	6	2.7	.....	2cs	2ks	Calm	NW	0	0	Fair	
Norfolk, Virginia	29.76	755.9	29.81	757.2	76	24.4	86	N	6	2.7	.....	8c;k	0	Calm;N	.....	0	0	Fair	
North Platte, Nebraska	26.92	683.8	29.32	744.7	71	21.7	87	E	8	3.6	.....	2k	0	Calm	.....	0	0	Clear	
Olympia, Washington Ter.	29.90	759.4	29.94	760.5	47	8.3	100	S	3	1.3	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.72	729.5	29.72	754.9	78	25.6	91	SE	9	4.0	.....	.....	10s	.....	SE	0	0	Cloudy	
Oswego, New York	29.56	750.8	29.88	758.4	67	19.4	74	NE	14	6.3	.....	5k	0	NE	.....	0.33	8.4	Fair	
Pembina, Dakota	29.04	737.6	29.81	757.2	72	22.2	90	S	14	6.3	.....	0	5ks	.....	W	0	0	Fair	
Philadelphia, Pennsylvania	29.73	755.1	29.78	756.4	70	21.1	66	N	15	6.7	.....	5ck	0	NW	.....	0	0	Fair	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.54	724.9			87	30.6	69	E			2	2k	Ss	E	E	0.01	0.3	Cloudy	
Pike's Peak, Colorado	17.99	456.9	30.20	767.1	40	4.4	56	SW	20	8.9		Sc	0	SW		0	0	Fair	
Pioche, Nevada	23.96	608.6	29.73	755.1	61	16.1	71	S	4	1.8		0	0			0	0	Clear	
Pittsburg, Pennsylvania	29.11	739.4	29.89	759.2	62	16.7	83	NW	4	1.8		0	0			0	0	Clear	
Port Huron, Michigan	29.32	744.7	29.95	760.7	71	21.7	71	NE	12	5.4		0	0			0	0	Clear	
Portland, Maine	29.64	752.8	29.69	754.1	69	20.6	70	N	8	3.6		8k	0	NW		0.28	7.1	Cloudy	
Portland, Oregon	29.87	758.7	29.98	761.5	53	11.7	80	Calm	0	0		0	8s		Calm	0	0	Cloudy	
Prescott, Arizona	24.67	626.6	30.03	762.7	62	16.7	88	Calm	0	0			10s		Calm	0.28	7.1	Cloudy	
Pilot Point, Texas	29.15	740.4	29.93	760.2	77	25.0	81	SE	4	1.8		8c	0	S		0	0	Cloudy	
Punta Rassa, Florida	29.97	761.2	29.98	761.5	85	29.4	72	W	6	2.7		2k	2ks	W	Calm	0.03	0.8	Fair	
Red Bluff, California	29.34	745.2	29.69	754.1	63	17.2	62	S	2	0.9		1c	Haze	Calm	Calm	0	0	Clear	
Rio Grande City, Texas																0.01	0.3		
Rochester, New York	29.28	743.7	29.86	758.4	70	21.1	66	N	8	3.6		1k	0	N		0.01	0.3	Clear	
Roseburg, Oregon	29.34	745.2	29.90	759.4	55	12.8	74	NW	2	0.9			10s		Calm	Inap.	Inap.	Cloudy	
Sacramento, California	29.61	752.1	29.70	754.4	57	13.9	81	S	9	4.0		1c	0	SW		0	0	Clear	
St. Louis, Missouri	29.35	745.5	29.89	759.2	76	24.4	82	E	4	1.8			10s		Calm	0.01	0.3	Cloudy	
St. Marks, Florida	29.89	759.2	29.91	759.7	80	26.7	91	W	4	1.8		5c	0	NW		0.21	5.3	Fair	
St. Paul, Minnesota	29.12	739.6	29.91	759.7	68	20.0	84	E	8	3.6		0	0			0	0	Clear	
Salt Lake City, Utah	25.50	647.7	29.83	757.7	66	18.9	59	E	4	1.8		0	0			Inap	Inap.	Clear	
San Antonio, Texas	29.20	741.7	29.75	755.6	75	23.9	90	SW	1	0.4		2c	2ks	Calm	SW	0	0	Fair	
San Diego, California	29.74	755.4	29.81	757.2	63	17.2	83	SW	4	1.8			10s		Calm	0	0	Cloudy	
Sandusky, Ohio	29.32	744.7	29.96	761.0	70	21.1	80	NE	20	8.9		0	0			0	0	Clear	
Sandy Hook, New Jersey	29.73	755.1	29.76	755.9	71	21.7	75	NW	8	3.6		8k	0	NW		0	0	Cloudy	
San Francisco, California	29.71	754.6	29.77	756.1	54	12.2	87	SW	4	1.8		0	8s		SW	0	0	Fair	
Santa Fé, New Mexico	23.30	591.8	29.84	757.9	63	17.2	57	E	3	1.3		5cs	0	Calm		0	0	Fair	
Savannah, Georgia	29.76	755.9	29.85	758.2	85	29.4	76	SW	4	1.8		10ck	Haze	Calm	Calm	0	0	Cloudy	
Shreveport, Louisiana	29.71	754.6	29.92	760.0	79	26.1	86	SW	1	0.4		Haze	0	Calm		0	0	Clear	
Silver City, New Mexico	24.23	615.4			63	17.2	94	N	7	3.1			10s		Calm	0.28	7.1	Cloudy	
Smithville, North Carolina	29.78	756.4	29.81	757.2	76	24.4	91	NW	5	2.2		0	8s		NW	0.22	5.6	Cloudy	
Springfield, Massachusetts	29.56	750.8	29.68	753.9	71	21.7	71	Calm	0	0		5k	0	NE		0.03	0.8	Fair	
Stockton, Texas	26.88	682.7	29.88	758.9	70	21.1	44	Calm	0	0			10ks		SE	0	0	Cloudy	
Thatcher's Island, Mass	29.66	753.4	29.71	754.6	66	18.9	84	N	10	4.5		2c	0	N		0.01	0.3	Fair	
Toledo, Ohio	29.30	744.2	29.95	760.7	64	17.8	89	N	4	1.8		0	0			0	0	Clear	
Tucson, Arizona	27.11	688.6	29.66	753.4	73	22.8	95	Calm	0	0			10n		SW	0.85	21.6	Heavy rain.	
Tybee Island, Georgia	29.83	757.7	29.86	758.4	82	27.8	79	N	1	0.4		5ck	2ks	Calm	Calm	0	0	Cloudy	
Umatilla, Oregon	29.44	747.8			58	14.4	54	W	16	7.2		0	2s		W	0	0	Fair	
Uvalde, Texas	28.97	735.8	29.76	755.9	72	22.2	90	E	1	0.4			10s		E	0.87	22.1	Cloudy	
Vicksburg, Mississippi	29.72	754.9	29.97	761.2	83	28.3	75	W	4	1.8		5c	0	Calm		0	0	Fair	
Virginia City, Montana	24.16	613.6	29.64	752.8	57	13.9	63	Calm	0	0		0	0			0.02	0.5	Clear	
Visalia, California	29.40	746.7	29.76	755.9	62	16.7	61	Calm	0	0		0	0			0	0	Clear	
Washington, D. C	29.73	755.1	29.84	757.9	71	21.7	75	NW	7	3.1		0	0			0	0	Clear	
Wickenburg, Arizona					75	23.9	86	N			1		10ks		Calm	0.62	15.7	Cloudy	
Wilmington, N. Carolina	29.73	755.1	29.80	756.9	74	23.3	95	N	2	0.9			10s		Calm	0.25	6.3	Cloudy	
Winnemucca, Nevada	25.43	645.9	29.79	756.7	50	10.0	45	SW	4	1.8		0	0			0	0	Clear	
Wood's Holl, Mass	29.64	752.8	29.70	754.4	70	21.1	84	NW	6	2.7		0	5s		NW	Inap.	Inap.	Fair	
Yankton, Dakota	28.59	726.2	29.80	756.9	74	23.3	93	E	6	2.7			10s		Calm	0	0	Cloudy	
Yuma, Arizona	29.49	749.0	29.65	753.1	80	26.7	61	Calm	0	0		0	0			0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska																			
York Factory, B. A	29.73	755.1	29.78	756.4	49.0	9.4	89	N	6	2.7		2s	2s	W	N	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.98	761.5	30.00	762.0	84	28.9	79	Calm	0	0		0	0			0	0	Clear	Chas. Hasselbrink.
Santiago de Cuba, W. I	29.94	760.5	29.97	761.2	82	27.8	79	NE	2.4	1.1		8ck	0	SE		0	0		Robert Mason.
St. Thomas					84	28.9	79	E	4	1.8		2c	5k	E		0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I	30.09	764.3	30.10	764.5	80	26.7	87	Calm	0	0		2ck	2n	Calm		0	0		James Gall.
Navassa, W. I	29.90	759.4	29.98	761.5	84	28.9		NE	10.8	4.8						0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.03	762.7	30.03	762.7	81	27.2	78	SE			2	3c	5k	E		0.010	0.2[illegible]	Fair	C. J. Hering
Medellin, Colombia, S. A	25.21	640.3			68.0	20.0	80	SE	2	0.9		4cs	3ks			0.11	2.8		Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.: Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fe, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.08	764.0	84	28.9	84	28.9	83	W	5	2.2	.....	.....	5	.....	SW	1.71	45.4	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.83‡	757.7‡	.....	.....	71	21.7	71	W	6	2.7	.....	.....	10	.....	.....	0.4	10.	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.98*	761.5*	77	25.0	76.3	24.6	91	SSW	.....	.....	2	.....	1ck	.....	SW	Slight	Slight	.....	.....	Fair.....	
Adams. N. 13° 30′, W. 173° 40′	30.12	765.0	80	26.7	79	26.1	95	SE	.....	.....	3	.....	5	.....	SE	.....	.....	Mod'ate	SE	Pleasant.....	
Alliance, Villafranca, France	29.88‡	758.9‡	.....	.....	79	26.1	78	S	.....	.....	0-1	.....	1	.....	S	.....	.....	.....	.....	Clear.....	
Ashuelot. Kobe, Japan	30.04	763.0	80	26.7	79	26.1	100	W	.....	.....	0	.....	8	.....	Calm	.....	.....	Smooth	.....	Hazy.....	
Alaska. S. 36° 56′, W. 55° 19′	30.24	768.1	57	13.9	49	9.4	85	ESE	.....	.....	3	.....	2	W	SE	0.27	6.9	Long	SSE	D. clouds.....	
Canonicus, New Orleans, La	30.00	762.0	55	12.8	80	26.7	91	SW	.....	.....	2	.....	4	.....	.....	.....	.....	.....	.....	Fair.....	
Colorado. New York, N. Y.	29.72‡	754.9‡	.....	.....	71	21.7	71	NW	11	4.9	.....	.....	8	.....	NW	0	0	.....	.....	Light fog.....	
Constitution, Havre, France	30.01‡	762.2‡	.....	.....	66	18.9	89	W	.....	.....	2	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy	
Despatch, Constantinople, Turkey	29.78‡	756.4‡	.....	.....	75	23.9	77	NE	.....	.....	2	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va	29.92	760.0	78	25.6	77	25.0	95	N	4.5	2.0	.....	.....	2	.....	N	0.01	0.3	.....	.....	Clear.....	
Gettysburg Toulon, France	29.88‡	758.9‡	.....	.....	75	23.9	??	SW	.....	.....	5	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.12	765.0	.....	.....	65	18.3	84	NNW	4.2	1.9	.....	.....	10	.....	NNW	0	0	.....	.....	Foggy.....	
Marion, Villafranca, France	30.09	764.3	76	24.4	76	24.4	73	S	.....	.....	2	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, Chicago, Illinois	29.52	749.8	75	23.9	73	22.8	72	SE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.94‡	760.5‡	.....	.....	77	25.0	91	S	.....	.....	2	.....	8	.....	SE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.05	763.3	84	28.9	82	27.8	83	NNW	3	1.3	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Onward, Callao, Peru	30.12‡	765.0‡	.....	.....	62	16.7	83	S	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	72	22.2	90	N	.....	.....	2	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Palos, Tientsin, China	29.86	758.4	70	21.1	68	20.0	95	N	.....	.....	1	.....	10	.....	N	.....	.....	.....	.....	Drizzling.....	
Plymouth. New York, N. Y.	29.99	761.7	70	21.1	70	21.1	80	NNW	.....	.....	3	.....	8	.....	NW	.....	.....	.....	.....	Cloudy.....	
Ranger. Hong-Kong, China	29.92	760.0	80	26.7	81	27.2	87	WSW	.....	.....	2	.....	10	.....	Calm	.....	.....	.....	.....	Raining	
Rio Bravo, Brownsville, Texas	29.84	757.9	76	24.4	76	24.4	95	Calm	.....	.....	.....	.....	10	.....	Calm	.....	.....	.....	.....	Light rain...	
Santee, Annapolis, Md.	29.82‡	757.4‡	.....	.....	73	22.8	56	NW	.....	.....	1	.....	2	....	SW	0	0	.....	.....	Clear.....	
St. Louis, League Island, Pa	29.76	755.9	72	22.2	71	21.7	75	NW	5	2.2	.....	.....	2	.....	NW	0	0	.....	.....	Fair.....	
Supply, Havre, France	30.08	764.0	67	19.4	65	18.3	78	NW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.	29.55‡?	750.6‡	.....	.....	69	20.6	85	WNW	.....	.....	2	.....	8	.....	NE	.....	.....	.....	.....	Fair	
Trenton, Cherbourg, France	29.97‡	761.2‡	.....	.....	68	20.0	75	WNW	.....	.....	3	.....	9	.....	N;W	1.4	36.	.....	.....	Cloudy.....	
Tuscarora. N. 17° 13′, W. 101° 19′	29.70	754.4	80	26.7	81	27.2	74	WNW	.....	.....	3	.....	8	.....	WNW	1.0	25.	Long	WNW	Fair.....	
Vandalia. Villafranca, France	29.91‡	759.7‡	.....	.....	78	25.6	82	SSW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	29.69‡	754.1‡	.....	.....	68	20.0	79	NW	6	2.7	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Upper. 0—10.	Lower. 0—10.	Upper. From—	Lower. From—					
S. S. Alaska																			
S. S. China, N. 39° 12′, W. 136° 58′		30.25*	768.3*	62	16.7	100	NNW			4		5		N	Blank	Light	NW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 47° 30′ W. 124° 50′		29.90†	759.4†				WSW			2		6		E	Light	Light	NW	Fair	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.69	754.1	76	24.4	95	WNW	8	1.3			10		W	Heavy	Smooth		Thunder-storm	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 6° 48′, W. 80° 59′		29.96†	761.0†	79	26.1	95	N			3		8		NE	Blank	Mod'ate	SW	Raining	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 39° 32′, W. 124° 18′		29.76†	755.9†	56	13.3	87	NW			5		7		SE	0	Heavy	NW	Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

S. S. Alaska																			
S. S. China, N. 39° 12′, W. 136° 58′		30.25*	768.3*	62	16.7	100	NNW			4		5		N	Blank	Light	NW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 47° 30′ W. 124° 50′		29.90†	759.4†				WSW			2		6		E	Light	Light	NW	Fair	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.69	754.1	76	24.4	95	WNW	8	1.3			10		W	Heavy	Smooth		Thunder-storm	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 6° 48′, W. 80° 59′		29.96†	761.0†	79	26.1	95	N			3		8		NE	Blank	Mod'ate	SW	Raining	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 39° 32′, W. 124° 18′		29.76†	755.9†	56	13.3	87	NW			5		7		SE	0	Heavy	NW	Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 48° 29′, W. 33° 1′		29.78*	756.4*	62	16.7	83	NNE			4				NE	0	Mod'ate	NE	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. *Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Yokohoma, Japan		29.76*	755.9*	78	25.6	79	S			4		k		S		Smooth	S	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 50′, W. 141° 30′		30.02†	762.5†	68	20.0	100	N			3		s		Var.	0	Smooth	N	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 44° 57′, E. 166° 59′		30.21	767.3	54	12.2	93	SSE			4		0				2	S	Blue sky	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 50° 17′, W. 2° 59′		29.96	761.0	65	18.3	??	SW			3		5		SW	0	Mod'ate	SW	Fine	Capt. T. H. Lamke.
S. S. Braunschweig, N. 49° 43′ W. 28° 47′		29.69	754.1	62	16.7	77	N			6		5		N	5 hours	4	N;W		Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, Mersey River		29.98*	761.5*	62	16.7	94	SE			3		5		NW	0			Smoky	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		29.75	755.6	73	22.8	85	NW			3		7		N	0			Clear?	Captain Morison.
S. S. Pennsylvania, Liverpool		30.03†	762.7†	76	24.4	100	ENE			2		7		ENE	0			Clear?	Captain Harris.
RED STAR LINE MARINE SERIES. Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.																			
S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.
ALLAN LINE MARINE SERIES. Furnished by the coöperation of A. Schumacher, & Co., Agents.																			
S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			
MARINE SERIES. (Miscellaneous.) Furnished by the coöperation of the Observer named.																			
Schooner Addie Fuller, Off Brandywine Shoal		29.73	755.1	74	23.3	72	N	9	4.0			0			0			Clear	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		30.15*	765.8*	46.0	7.8		Calm			0	0	0						Fair	O. T. Sherman.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg'd.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 22, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.00	762.0	86.0	30.0	61	Calm	.....	.....	0	.....	1	.....	.....	0	0	Very fair.....	Kesxuche.
Algiers	.....	.....	29.86	758.5	85.3	29.6	71	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Touriliere.
La Calle	.....	.....	29.87	758.7	89.2	31.8	66	N	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Foufrede.
Tunis	.....	.....	29.98	761.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.5	89.6	32.0	.....	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30.10	764.4	108.5	42.5	26	S	.....	.....	3	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.01	762.2	98.6	37.0	.....	W	.....	.....	4	.....	1	.....	.....	0	0	Very fair....	Watrin.
Geriville	.....	.....	30.19	766.9	88.5	31.4	22	S	.....	.....	4	.....	7	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.13	765.3	102.9	39.4	20	SW	.....	.....	2	.....	1	.....	.....	0	0	Very fair.....	Bertrand.
Biskra	.....	.....	30.01	762.3	103.6	39.8	25	ESE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Agram	29.51	749.6	30.04	763.1	70.9	21.6	62	SW	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozii.
Cracow, I. R. Observatory	29.28	743.8	30.03	762.8	67.6	19.8	80	WNW	.....	.....	1	.....	7	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.11	739.4	29.96	761.0	70.0	21.1	57	W	.....	.....	2	.....	8cs	.....	E	0	0	.....	Julius Mikolik.
Gratz	28.79	731.3	30.00	762.1	68.7	20.4	75	SE	.....	.....	2	.....	7	.....	.....	0.012	0.30	.....	Andreas Rospini.
Hermannstadt	28.56	725.5	29.94	760.5	68.0	20.0	53	NNE	.....	.....	3	.....	5	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.69	728.6	29.99	761.8	65.5	18.6	66	NNE	.....	.....	3	.....	1c	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	29.00	736.5	29.96	761.0	63.3	17.4	76	NW	.....	.....	1	.....	9	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.89	759.2	30.00	761.9	79.5	26.4	49	SE	.....	.....	1	.....	2cs	.....	.....	0.047	1.2	.....	I.R.Hydrographic Office
Szathmar	29.56	750.7	30.01	762.2	68.5	20.3	44	NW	.....	.....	4	.....	4	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	Karl Stancel.
Trieste	29.95	760.6	30.04	763.0	77.7	25.4	51	W	.....	.....	1	.....	0	.....	.....	0	0	Fair.....	P. Busin.
Vienna	29.35	745.6	30.05	763.3	68.0	20.0	43	Calm	.....	.....	0	.....	1	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Arlon	28.50	724.0	29.97	761.1	68.0	20.0	51	NNE	.....	.....	2	.....	2	.....	.....	0.142	3:6	.....	Prof. M. Passau.
Brussels	29.77	756.2	29.97	761.1	70.0	21.1	50	ESE	.....	.....	4	10	.....	W	.....	0.016	0.40	.....	Royal Observatory
Furnes	29.97	761.3	30.00	761.9	72.5	22.5	53	ESE	.....	.....	3	.....	8	.....	.....	0.173	4.4	.....	M. E. de Cae.
Maeseyck	29.91	759.8	30.04	763.0	67.8	19.9	47	E	.....	.....	2	.....	5	.....	.....	0.268	6.8	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society. Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.99	761.7	30.08	764.0	58.5	14.7	.....	E	14	6.3	.....	.....	2	.....	.....	0.010	0.25	Blue sky.....	W. Boswell.
Ardrossan	29.97	761.2	29.98	761.5	68	20.0	.....	NE	.....	.....	2	.....	6	.....	.....	.....	.....	Misty	George Carrick.
Armagh, Observatory	.....	.....	29.93	760.2	66.4	19.1	.....	ESE	17	7.6	.....	.....	5	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.92	760.0	66.8	19.3	.....	E	17	7.6	.....	.....	0	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	29.63	752.6	29.82	757.4	62.8	17.1	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.60	751.8	30.00	762.0	64.6	18.1	.....	E	.....	.....	2	.....	6	.....	.....	0	0	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	83	28.3	.....	NE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.96	761.0	68.0	20.0	.....	ESE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd. [H. C.
Cardington	.....	.....	29.96	761.0	70.0	21.1	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E	29.81	757.2	29.94	760.5	68.2	20.1	.....	SE	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	Lt. W. G. Morris, R. E.
Dartmoor	28.22	716.8	29.65	753.1	59.0	15.0	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Gloomy	Alexander Watt.
Donaghadee	29.94	760.5	29.97	761.2	63	17.2	.....	ESE	.....	.....	3	.....	6	.....	.....	.....	.....	Blue sky.....	J. Mac Gowan.
Dover	29.90	759.4	29.93	760.2	66	18.9	.....	E	.....	.....	4	.....	5	.....	.....	.....	.....	Hazy	J. Costello.
Eccles, (near Manchester)	.....	.....	29.95	760.7	68.8	20.4	.....	E	3.2	1.4	.....	.....	6	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.50	749.3	29.72	754.9	62.0	16.7	.....	ESE	.....	.....	6	.....	10	.....	.....	.....	.....	Squally.....	The Staff.
Fort Napier, (Natal)	27.96	710.2	30.26	768.6	68.0	20.0	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.74	755.4	29.97	761.2	82	27.8	.....	SW	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.74	755.4	63	17.2	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.89	759.2	29.94	760.5	80.0	26.7	.....	E	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.79	756.7	30.00	762.0	61.9	16.6	.....	ENE	.....	.....	3	.....	9	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	30.03	762.7	30.03	762.7	62	16.7	.....	ESE	.....	.....	5	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.76	755.9	29.93	760.2	67.8	19.9	.....	E	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds.....	The Staff, for G. B. Airy.
Guernsey	29.58	751.3	29.80	756.9	65	18.3	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	Showery	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.60	751.8	65	18.3	.....	E	.....	.....	3	.....	10n	.....	.....	.....	.....	Raining.....	M. P. Moyle.
Holyhead	29.82	757.4	29.87	758.7	65	18.3	.....	ENE	.....	.....	5	.....	8	.....	.....	0.03	0.8	D. clouds.....	John Tilston.
Jersey	29.55	750.6	29.84	757.9	65.3	18.5	.....	SE	.....	.....	4	.....	10	.....	.....	.....	.....	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.92	760.0	67.9	19.9	.....	E	23	10.3	.....	.....	10	.....	.....	.....	.....	Misty.....	The Staff.
Kingstown	29.88	758.9	29.91	759.7	65	18.3	.....	ESE	.....	.....	4	.....	5	.....	.....	Blank	Blank	D. clouds..	George Mitchell.
Leicester, Museum	.....	.....	29.95	760.7	65.5	18.6	.....	E	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.91	759.7	29.99	761.7	82	27.8	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.97	761.2	30.05	763.3	57	13.9	.....	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	¼ clouded..	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.95	760.7	85.2	29.6	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.30	756.9	29.99	761.7	67.5	19.7	.....	ENE	.....	.....	5	.....	10k;d	.....	E	0	0	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.42	747.3	29.93	760.2	63.6	17.6	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.91	759.7	68	20.0	.....	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	H.E. Bellamy.
Plymouth	29.70	754.4	29.77	756.1	64.3	17.9	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	John Merrifield.
Roche's Point	29.66	753.4	29.70	754.4	60	15.6	.....	ESE	.....	.....	8	.....	10	.....	.....	.....	.....	Raining.....	W. Kennedy.
Saint Ann's Head	29.62	752.3	29.78	756.4	62	16.7	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	30.09	764.3	59	15.0	.....	SE	15	6.7	.....	.....	2	.....	.....	.....	.....	D clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.84	757.9	88.8	31.6	.....	NNE	.....	.....	2	.....	1	.....	.....	Blank	Blank	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.74	755.4	30.02	762.5	64.9	18.3	.....	ENE	.....	.....	3	.....	6	.....	.....	0.16	4.1	D. clouds.....	W. F. Cooper.
Silloth Rectory	29.96	761.0	29.99	761.7	69.3	20.7	57	SE	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.60	75.18	30.00	762.2	63.5	17.5	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Squally.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.94	760.5	29.98	761.5	61	16.1	.....	E	.....	.....	3	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	30.06	763.5	62	16.7	.....	SE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	John Trotter.
Truro, Royal Institution	.....	.....	29.75	755.6	65	18.3	.....	SE	.....	.....	7	.....	10	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	.....	.....	29.99	761.7	61.7	16.5	.....	E	36	16.1	.....	.....	10	.....	.....	Blank	Blank	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.72	754.9	60	15.6	82	NW	.....	.....	2	.....	10k	.....	.....	0	0	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	30.00	762.0	30.18	766.6	73.0	22.8	62	E	15.0	6.7	.....	0	3	.....	ESE	0.05	1.3	Fine.....	C. Meldrum.
Melbourne, Observatory	29.86	758.4	29.95	760.7	56.5	13.4	60	NE	16	7.2	.....	.....	0	.....	.....	0	0	Very fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway. Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Observer.
S. S. Algeria	.....	.....	Capt. W. Watson.
Brig Catherine, N. 46° 10′, W. 53° 0′	3	.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	Capt. D. W. A. Quaile
S. S. Peruvian	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	Capt. Alex. Simpson, R.
Barque Virginia	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.25	666.7			68.0	20 0	98	NE			1		10n			0.3	8.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.96	760.9	30.00	762.1	63.0	17.2	58	SE			2		3						
Fanöe	30.02	762.4	30.04	762.9	62.2	16.8	69	W			4		9						
Godthaab, (Greenland)	29.85	758.2	29.89	759.3	44.2	6.8	84	NE			2		10						
Stykkisholm, (Iceland)	29.69	751.9	29.65	753.0	56.5	13.6	75	SW			7		8						
Thorshavn, (Faröe)	30.02	762.4	30.05	763.3	54.5	12.5	70	SW			2		4						
Vestervig	29.84	758.0	30.01	762.3	62.2	16.8	74	NW			4		2						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.34	745.2	29.89	759.2	68.0	20	81	S			1		10			0	0	Covered	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.89	759.1	29.97	761.1	81.7	27.6	58	S			2		10n		S	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.36	745.8	29.90	759.4	74.7	23.7	50	S			1		5n		SSW	0.157	4.0	Cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.62	752.4	29.90	759.4	73.0	22.8	54	E			1		8		SSE	0	0	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.19	741.5	30.08	763.9	65.1	18.4	77	E			2		2		SW	0	0	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.41	747.1	29.96	760.9	64.4	18	86	SW			2		5n		SW	0	0	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.44	747.8	29.68	753.9	61.9	16.6	91	S			4		10		S			Raining	The Staff.
Carcassonne, Normal School	29.50	749.2	29.89	759.2	79.5	26.4	59	E			2		2	E		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.21	741.8	29.75	755.6	73.8	23.2	71	E			2		7		W	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.62	752.4	29.93	760.1	74.1	23.4	55	SW			4		5	NW	NW	0	0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.52	724.3	29.80	757.0	77.0	25.0	57	NE			1				SW	0	0		Alluard, Director.
Commercy, Normal School	29.11	739.4	29.97	761.1	68.4	20.2	71	SE			1		5k		SE	0.04	1.	Cloudy	Dr. Coulet, Director.
Commune de Grêasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.57	751.0	29.77	756.2	66.2	19.0	81	SW			3		10		SW	0.43	11.	Covered	Mouillot, Director.
Le Mans, Normal School	29.49	749.1	29.79	756.7	68.9	20.5	72	SE			1		5		SE	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.51	749.5	30.00	762.0	69.8	21	85	SW			1		5		SW	0	0	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.67	753.5	29.76	756.0	63.0	17.2	92	SE			2		10		SE	0.291	7.4	Covered	T. Carré, Director.
Mâcon, Normal School					71.8	22.1	84	SE			1		10			0	0	Covered	M. Galzin, Director
Mirecourt, Normal School	28.89	733.8	29.89	759.3	69.6	20.9	67	WSW			1		2k		W	0.39	10.	Slightly cl'dy	M. Barbier, Director.
Nismes, Normal School	29.88	759.0	30.08	763.9	81.3	27.4	51	E			2		0			0	0	Clear	Boyer, Director.
Privas, Normal School	28.94	735.1	29.96	760.9	79.2	26.2	49	N			1			N	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.16	639.0			61.2	16.2	28	W			1				W	0	0		Alluard, Director.
Rochefort, Naval Obs'y	29.75	755.6	29.78	756.4	71.2	21.8	82	SE			1		10		SE	0.04	1.	Covered	M. Giguel, Director.
Rouen, Normal School	29.79	756.7	29.88	758.9	73 0	22.8	53	SE			2		8		S	0.024	0.6	Very cloudy	F. Lucard, Director.
Saint Malo (Port)			29.80	756.8	63.5	17.5	83	SSE			2		8		SSE	0	0	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	28.90	734.1	29.95	760.6	71.6	22	66	WSW			1		10			0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.4	29.97	761.1	77.0	25										4.96	126.		L'Abbé Marchési.
Lyons			30.02	762.6	88.0	31.1	32						0			0	0		L. Jays.
Marseilles, Observatory			29.98	761.5	81.0	27.2	58	S			1–2		3			0	0	Slightly cl'dy	The Staff.
Mont-Louis	24.89	632.1	30.20	767.1	73.4	23.0	31	S	25.1	11.67			0			0	0		M. Cave.
Nice			30.03	762.7	77.0	25.0	69	SE			2		0			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.61	752.0	29.89	759.0	72.9	22.7	56	E			3		8		SE	0	0		Marié Davy, Director
Perpignan			29.87	758.8	77.7	25.4	74	E	9.3	4.17			5		NW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.59	573.8			58.3	14.6		W			4		3			0	0	Fair	Gen'l de Nansou y
Saint Maur, (near Paris)	29.72	755.0	29.89	759.2	71.6	22.0	57	SSE			2		8		SE	0.020	0.5		E. Renou.
Toulouse, Observatory	29.15	740.5	29.87	758.8	79.7	26.5	54	SSE			4		3			0.049	1.25		The Staff.
Tours	29.46	748.2	29.65	753.2	66.6	19.2	77	SW			2		8		WSW	0	0		C. Marquet.
Versailles			29.90	759.5	74.5	23.6	40	S			2		8			0	0	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.65	753.0	29.67	753.6	79.0	26.1	92	Calm	0	0			1			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grêasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.19	741.3	30.00	762.1	70.9	21.6	68	N	.....	.....	1	.....	1	N	.....	0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.91	759.8	30.08	764.0	66.9	19.4	90	NW	.....	.....	1	.....	7	.....	.....	0	0	.....	Prof. Arndt.
Breslau	29.56	750.8	30.09	764.3	67.8	19.9	80	W	.....	.....	1	.....	4	.....	.....	0	0	.....	Royal University Obs'y
Carlsruhe	29.56	750.9	29.98	761.4	71.8	22.1	64	E	.....	.....	1	.....	1	.....	.....	0	0	.....	Albert Senz.
Cassel	29.47	748.6	30.08	764.1	68.5	20.3	38	E	.....	.....	2	.....	2	SW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.85	758.2	30.01	762.3	70.0	21.1	41	E	.....	.....	2	.....	6cs	.....	.....	0	0	.....	Director Lose.
Emden	30.00	762.0	30.04	763.0	64.6	18.1	64	E	.....	.....	0	.....	9	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.69	754.1	30.04	763.1	71.4	21.9	.....	N	.....	.....	2	.....	6	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.59	726.2	29.99	761.8	65.5	18.6	85	W	.....	.....	4	.....	1	W	.....	0	0	.....	M. Wilhelm.
Hamburg	30.02	762.4	30.09	764.2	63.7	17.6	61	WSW	.....	.....	4	.....	8kn	.....	.....	0	0	Cloudy	Captain F. Hegemann.
Kiel	30.04	763.0	30.06	763.4	63.3	17.4	60	W	.....	.....	1	.....	10	.....	.....	0.020	0.51	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.92	759.9	30.09	762.0	60.8	16.0	73	W	.....	.....	3	.....	6	.....	.....	0.236	6.0	.....	Prof. E. Luther.
Köslin	.....	.....	30.09	761.9	61.7	16.5	.....	W	.....	.....	4	.....	2	.....	.....	0.575	14.6	.....	H. Müller.
Leipsic, Observatory	29.69	754.1	30.10	764.6	64.8	18.2	51	NNE	.....	.....	1	.....	8	SW	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.91	759.8	29.96	761.0	62.2	16.8	56	NW	.....	.....	1	.....	2cs	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	30.00	762.0	30.02	762.4	61.5	16.4	68	SW	.....	.....	1	.....	9	.....	.....	0.012	0.3	.....	A. Lothes.
Posen	29.80	757.0	30.08	764.1	66.2	19.0	57	W	.....	.....	6	.....	9	.....	.....	0.008	0.2	.....	Dr. Magener.
Strassburg (in Alsace)	29.47	748.5	30.00	762.0	70.7	21.5	67	NE	.....	.....	2	.....	2	.....	.....	0	0	.....	Astronomical Observatory.
Stuttgart	29.08	738.5	29.98	761.6	70.7	21.5	55	NE	.....	.....	1	.....	4	W	.....	0.051	1.3	.....	Prof. Schoder.
Treves, (Trier)	29.48	748.7	30.00	762.0	73.2	22.9	42	ESE	.....	.....	4	.....	2	.....	.....	0	0	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.56	725.3	30.02	762.4	66.7	19.3	58	SSW	0.9	0.4	.....	.....	7ck	.....	E	0	0	.....	Dr. Von Bebber.
Wustrow, Naval School	30.05	763.3	30.09	764.3	63.3	17.4	67	W	.....	.....	2	.....	4	.....	.....	0	0	.....	E. F. Schütz.
German Naval Series.																			
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Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.9	29.86	758.4	81.9	27.7	.....	SW	.....	.....	1.5	.....	.....	.....	.....	.....	.....	Clear	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.16	740.6	29.62	752.4	86.4	30.2	80	S	.....	.....	.....	.....	10	.....	NNW	0	0	Overcast	
Bombay	29.64	752.9	29.68	753.9	79.0	26.1	96	N	4	1.8	.....	.....	10	.....	SW	0.13	3.3	Raining	
Poona	27.74	704.5	29.75	755.6	73.9	23.3	93	WSW	.....	.....	.....	.....	10	.....	WSW	0.10	2.5	Drizzling	
Lahore	28.91	734.3	29.64	752.9	84.0	28.9	81	E	2.6	1.2	.....	.....	5	.....	E	0.22	5.6	D. clouds	
Belgaum	27.23	691.5	29.77	756.2	72.0	22.2	95	W	7	3.1	.....	.....	10	.....	W	0.16	4.1	Showery	
Roorkee	28.75	730.2	29.63	752.7	84.8	29.3	77	Calm	5.5	2.5	.....	.....	4	.....	.....	0.18	4.6	.....	
Agra	29.05	737.9	29.61	752.1	84.7	29.3	87	E	.....	.....	.....	.....	1	.....	.....	0	0	.....	
Nagpur	28.56	725.4	29.60	751.7	79.6	26.4	84	W	3.4	1.5	.....	.....	9	.....	.....	1.58	40.1	Gloomy	
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Allahabad	29.27	743.5	29.58	751.2	86.9	30.5	78	E	4.0	1.8	.....	.....	0	.....	.....	0.05	1.3	Blue sky	
Patna	29.45	748.0	29.63	752.6	88.4	31.3	69	E	3.0	1.3	.....	.....	6	E	NE	0	0	D. clouds	
Hazaribagh	27.64	702.2	29.65	753.0	77.8	25.4	88	ESE	12.1	5.4	.....	.....	10	.....	SE	0.08	2.0	Raining	
Cuttack	29.55	750.5	29.63	752.6	84.0	28.9	75	SSW	4.8	2.2	.....	.....	3	.....	.....	0.54	13.7	D. clouds	
Calcutta (Alipore)	29.67	753.6	29.69	754.2	82.4	28.0	83	S	10	4.5	.....	.....	9	.....	S	0	0	Overcast	
Goalpara	29.32	744.6	29.70	754.5	78.7	25.9	96	NNW	2.1	0.9	.....	.....	10	.....	.....	0.05	1.3	Raining	
Chittagong	29.66	753.4	29.75	755.7	82.9	28.3	87	S	6.2	2.8	.....	.....	6	.....	.....	0	0	Misty	
Sibsagar	29.36	745.8	29.70	754.3	84.0	28.9	82	SW	2.8	1.2	.....	.....	10	W	W	0.12	3.0	D. clouds	
Jubbulpore	28.25	717.5	29.60	751.8	81.8	27.7	81	SW	3.3	1.5	.....	.....	10	.....	.....	0.13	3.3	Overcast	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.65	753.1	30.04	763.1	74.7	23.7	52	S	1.3	0.6	.....	.....	8	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.94	760.4	30.04	763.1	73.6	23.1	57	NE	4.9	2.2	.....	.....	4	WNW	.....	0.031	0.8	.....	Prof. Dott. Lorenzoni
Vicenza	29.85	758.1	30.03	762.8	75.7	24.3	54	SE	0.7	0.3	.....	.....	2	.....	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.72	729.5	29.98	761.6	78.4	25.8	55	SSW	.....	.....	2	.....	3	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.52	749.8	30.02	762.5	80.6	27.0	53	E	.....	.....	2	.....	6	E	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.13	740.0	30.00	762.1	79.9	26.6	45	SSE	2.5	1.1	.....	.....	7	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.16	715.2	29.99	761.8	72.0	22.2	63	NNW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.81	757.2	30.02	762.6	74.5	23.6	72	E	.....	.....	6	.....	2	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.86	758.5	30.03	762.7	77.5	25.3	63	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.70	754.3	30.00	762.1	74.5	23.6	50	NNW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.76	756.0	30.01	762.3	83.3	28.5	37	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.2	30.01	762.2	77.4	25.2	64	W	3.8	1.7	.....	.....	3	S	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.49	723.7	29.98	761.4	79.9	26.6	42	SSW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.85	758.2	30.02	762.5	85.8	29.9	42	SW	5.6	2.5	.....	.....	2	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.84	757.8	30.03	762.7	83.3	28.5	53	SSW	.....	.....	4	.....	3	N	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.71	754.7	29.96	761.0	80.6	27.0	72	NNE	17.4	7.8	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.81	757.1	30.00	761.9	84.4	29 1	55	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.13	739.9	29.98	761.4	85.5	29.7	58	SSW	3.8	1.7	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.80	756.8	30.04	763.1	81.1	27.3	47	NE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.94	760.4	30.02	762.4	80.4	26.9	62	E	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.50	749.2	30.05	763.3	81.0	27.2	58	WSW	4.3	1.9	.....	.....	2	SW	.....	0	0	.....	Prof. F. Brioschi.

NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.41	747.0	29.61	752.1	80.0	26.7	90	SSE	10.6	4.7	.....	.....	10s	.....	SE	0.535	13.59	Cloudy.	I. Arai, Director.
Tokei (Yeddo) Observatory.	29.79	756.6	29.85	758.2	77.0	25.0	86	S	11.2	5.0	.....	0	0	.....	.....	0	0	Clear.....	
Tokei (Yeddo) University..	29.74	755.4	29.81	757.8	77.5	25.3	90	S	9.6	4.3	.....	.....	.....	.....	.....	0	0	Clear.....	Prof. P. V. Veeder.

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	62.0	16.7	81	N	11.0	4.9	.....	6cs	0	NNW	.....	0	0	Cloudy.....	L. Castillo, A. E.
Guadalajara	25.02	635.6	29.95	760.8	60.4	15.8	89	SE	1.8	0.8	.....	0	10n	.....	SE	0.72	18.2	Covered	Prof. L. Perez.
Guanajuato	23.67	601.2	29.80	757.0	63.5	17.5	77	Calm	0	0	.....	0	10	.....	.....	0.04	1.1	Covered.....	Prof. V. Fernandez
Leon	24.41	620.0	29.94	760 4	62.2	16.8	83	E	0.9	0.4	.....	2c	1k	E	.....	1.69	43.0	Clear	Prof. M. Leal.
Mexico	23.11	587.0	30.11	764.7	55.4	13.0	90	Calm	0	0	.....	5c	2ck	E	E	0	0	Cloudy.....	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.8	17.1	90	SE	1.8	0.8	.....	0	10n	.....	E	0.37	9.4	Rainy	M. V. de Leon, M. E
Puebla	23.36	593.4	29.97	761.2	57.6	14.2	88	E	3.4	1.5	.....	0	10kn	.....	.....	0.29	7.3	Cloudy.....	Prof. B. Gonzalez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.23	614 6	30.10	764.5	60.0	15.6	68	SE	0.9	0.4	.....	0	10	.....	SE	2.15	54.5	Covered.....	G. Barroeta, M. D.
Vera-Cruz	29.91	759.7	29.94	760.4	81.5	27.5	84	SW	.....	.....	.....	9ck	0	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	55.4	13.0	86	SE	0.9	0.4	.....	0	10	.....	.....	1.18	30.0	Foggy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	590.5	30.00	761.9	55.4	13.0	85	E	0.5	0.2	.....	4	2	.....	.....	0.34	8.6	½ cloudy....	Prof. P. Spina, [M.M.D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.35	720.0	29.99	761.7	75.6	24.2	89	Calm	0	0	.....	0	9	.....	SW	4.06	103.2	Very cloudy	R. Banda, C. E.
San Juan E. Michapam	29.68	753.9	29.83	757.6	77.9	25.5	.....	Calm	0	0	.....	4ck	2s	NE	.....	0.66	16.3	½ cloudy....	Antonio Guerra y Guerra.

NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	30.02	762.4	30.02	762.4	69.8	21.0	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Groningen	30.02	762.5	30.08	763.9	63.0	17.2	.....	NE	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	30.06	763.5	30.06	763.5	62.1	16.7	.....	ENE	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	30.02	762.4	30.02	762.4	66.9	19.4	68	NE	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	30.01	762.2	30.06	763.4	65.7	18.7	53	NE	.....	.....	3	.....	2	.....	.....	0	0	Slightly cl'dy	H. v d Brink.

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the v... as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.94	760.4	29.99	761.8	58.3	14.6	57	NNW	12.1	5.4	.....	.....	1	.....	.....	0	0	.....	
Bröno	29.79	756.7	29.83	757.7	50.4	10.2	90	SSW	18	8	.....	.....	10	.....	.....	0.260	6.6	Raining	
Christiania	29.79	756.6	29.93	760.2	64.8	18.2	54	SSW	7	3	.....	.....	5	.....	.....	0	0	.....	
Tromsö	29.69	751.9	29.65	753.0	49.3	9.6	66	NW	9	4	.....	.....	10	.....	.....	0.035	0.9	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.91	759.7	30.10	764.4	75.9	24.4	87	W	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.00	736.7	29.99	761.7	79.7	26.5	46	W	8.7	3.9	.....	.....	6	W	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.01	762.2	30.10	764.4	78.1	25.6	69	SW	6.9	3.1	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.65	753.1	30.00	762.0	72.7	22.6	77	SW	21.0	9.4	.....	.....	5	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.07	763.6	30.13	765.3	79.2	26.2	76	NW	13.0	5.8	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height, scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 33° 46′, W. 17° 41′	.....	.....	30.13	765.3	76.6	24.8	.....	N	.....	.....	2	.....	5	.....	N	1	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 47′, E. 11° 47′	.....	.....	30.03	762.8	69.8	21.0	.....	Calm	.....	.....	0	.....	0	.....	.....	1	.....	Blue sky	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 23° 34′	.....	.....	29.88	758.9	81.5	27.5	.....	NNE	.....	.....	3	.....	0	.....	.....	3	N	Blue sky	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.98	761.6	71.8	22.1	.....	NW	.....	.....	3	.....	4	.....	W	2	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.60	751.8	30.01	762.3	64.2	17.9	57	W	2	1	.....	.....	8ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.52	749.9	29.93	760.3	62.8	17.1	59	WNW	4	2	.....	.....	7	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.59	751.5	29.83	757.6	55.0	12.8	81	NW	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.65	753.1	29.67	753.5	55.4	13.0	67	NW	18	8	.....	.....	9n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	Ch. Forsten.
Kieff	29.27	743.5	29.96	761.0	54.0	12.2	100	NW	4	2	.....	.....	10n;ks;	c].....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.75	755.6	29.82	757.4	70.5	21.4	90	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.77	756.2	29.79	756.7	85.1	29.5	64	SE	4	2	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.25	742.9	29.78	756.3	64.9	18.3	53	SSE	9	4	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.56	750.7	29.75	755.7	80.4	26.9	41	WNW	4	2	.....	.....	6	.....	.....	Blank	Blank	.....	Meteorological Obs
Archangel	29.34	745.2	29.36	745.7	61.3	16.3	58	SSE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.42	721.9	29.73	755.1	95.5	35.3	34	Calm	0	0	.....	.....	5ks	.....	.....	.....	.....	.....	Physical Observatory.
Astrakhan	29.90	759.4	29.82	757.3	86.2	30.1	46	ESE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.49	749.0	29.75	755.6	69.4	20.8	69	S	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.91	734.2	29.82	757.4	68.5	20.3	49	WNW	11	5	.....	.....	5ck;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.67	753.5	29.89	759.1	82.9	28.3	33	NNE	18	8	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.30	718.9	29.90	759.4	85.6	29.8	28	NW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.10	739.2	29.59	751.6	79.3	26.3	33	SW	4	2	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.37	745.9	29.64	752.9	70.3	21.3	50	ESE	4	2	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.66	753.3	29.80	756.9	68.0	20.0	75	Calm	0	0	.....	.....	3cs	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 400 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.81	757.2	29.91	759.7	83.5	28.6	62	SW	1.8	0.8	.....	.....	5k	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.72	754.8	29.77	756.2	80.8	27.1	41	SW	2.4	1.07	.....	.....	10	.....	.....	0	0	Covered	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.00	685.7	.....	.....	75.9	24.4	53	SW	7.5	3.38	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez
Madrid, Royal Observatory	27.74	704.7	29.84	757.8	87.1	30.6	23	SW	22.4	10.00	.....	1	0	.....	.....	0	0	Almost clear	The Staff.
Murcia, Met. Obs'y	29.85	758.1	29.99	761.7	94.5	34.7	49	E	3.4	1.59	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.87	733.2	29.74	755.3	66.0	18.9	86	WSW	11.8	5.28	.....	.....	10	.....	.....	1.012	25.7	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.92	759.8	29.98	761.5	80.0	26.7	81	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.7	30.01	762.1	79.7	26.5	53	W	8.2	3.7	.....	0	2	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.95	760.7	30.04	763.0	85.3	29.6	81	SE	9.3	4.16	.....	0	2k	....	E	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.71	754.5	29.74	755.5	58.6	14.8	.....	NW	.....	.....	2	.....	2	.....	.....	0	0	.....	
Umea	29.69	754.2	29.74	755.5	65.1	18.4	60	NNW	.....	.....	7	.....	7	.....	.....	0	0	.....	
Hernosand	29.76	756.0	29.82	757.3	60.3	15.7	49	W	.....	.....	6	.....	5	.....	.....	0	0	.....	
Stockholm	29.73	755.1	29.91	759.6	61.0	16.1	48	Calm	.....	.....	0	.....	3	.....	.....	0	0	.....	
Wisby	29.80	756.8	29.85	758.3	62.2	16.8	68	WNW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.82	757.3	29.89	759.2	63.0	17.2	50	NNW	7.2	3.2	.....	.....	6	NW	.....	0.060	0.01	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.9	29.97	761.1	68.5	20.3	65	N	.....	.....	1	.....	5	.....	.....	0	0	Vapory	The Observatory.
Zurich	28.41	721.5	29.99	761.7	70.9	21.6	64	N	.....	.....	2	.....	2	.....	.....	0	0	Clear	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer, —0.9 cent.; Relative Humidity, +9 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.93	760.1	77.2	25.1	61	NE	11	5.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.10	764.6	79.0	26.1	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.72	754.9	29.83	757.7	87.4	30.8	70	N	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.99	761.7	30.06	763.5	58.9	14.9	75	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.75	755.6	30.04	763.0	70	21.1	.....	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	W. R. Bigg.
*Chatham, N. B	30.00	762.0	30.06	763.5	57	13.9	72	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island.	29.91	759.7	29.95	760.7	55	12.8	75	N	17	7.6	.....	.....	10ks	.....	N	0.230	5.84	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.84	757.9	30.03	762.7	64.0	17.8	93	N	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A
Dalhousie, N. B	29.87	758.7	30.03	762.7	56.5	13.6	90	W	.....	.....	1	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.96	761.0	30.01	762.2	49.5	9.7	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	30.12	765.0	30.14	765.5	53	11.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	J. McWilliams.
Fredericton, N. B	30.01	762.2	30.07	763.8	59.0	15.0	66	NE	7	3.1	.....	4k	0	.....	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	28.97	735.8	29.75	755.6	70	21.1	97	S	10	4.5	.....	2ck	5ks	W	S	0.340	8.64	Clearing	James Stewart.
Granton, Ontario	29.60	736.6	30.08	764.0	62	16.7	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	James Grant.
*Halifax, N. S	29.77	756.1	29.90	759.4	56	13.3	80	N	10	4.5	.....	.....	10n	.....	N	Inap.	Inap.	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.72	754.9	30.08	764.0	65.7	18.7	74	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.51	749.5	29.53	750.0	61	16.1	94	NE	.....	.....	1	.....	10	.....	.....	0.08	2.0	Rain & fog	E. Weedon.
*Kingston, Ontario	29.72	754.9	30.05	763.3	68	20.0	84	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	.....	.....	.....	.....	.....	.....	.....	NE	20	8.9	.....	8k	0	NE	.....	0	0	.....	C. H. Rigby.
*Montreal, Quebec	29.87	758.7	30.06	763.5	68	20.0	62	E	7	3.1	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E
*Parry Sound, Ontario	29.41	747.0	30.08	764.0	64	17.8	81	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.	Rev. R. Mosley.
Peterboro, Ontario	29.32	741.7	30.05	763.3	65.7	18.7	84	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.38	746.2	30.06	763.5	63	17.2	89	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.83	757.7	29.88	758.9	56.3	13.5	.....	NW	10	4.5	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.43	747.5	30.06	763.5	60	15.6	84	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.80	756.9	30.12	765.0	61	16.1	77	NE	.....	.....	2	2ck	0	.....	.....	0	0	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.64	752.8	30.09	764.3	60	15.6	82	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear.	W. H. McIntyre.
St. Andrews, N. B	29.99	761.7	30.04	763.0	58	14.4	75	N	3	1.3	.....	2k	2s	.....	.....	0.01	0.3	Clear	Dr. Gove.
St. John, N. B	29.85	758.2	30.02	762.5	57	13.9	75	NE	16	7.2	.....	0	7ks	.....	.....	0	0	Fair	G. Murdock, C. E.
*Saugeen, Ontario	29.38	746.2	30.08	764.0	63	17.2	85	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.	K. Stewart.
Stayner, Ontario	29.26	743.2	30.02	762.5	65	18.3	83	Calm	0	0	.....	0	c	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.82	732.0	30.08	764.0	60.6	15.9	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	C. J. MacGregor, M. A.
*Sydney, C. B	29.79	756.7	29.82	757.4	55	12.8	84	N	13	5.8	.....	5k	5ks	N	N	0.17	4.3	Cloudy	T. C. Hill.
*Toronto, Ontario	29.69	754.1	30.06	763.5	68	20.0	70	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61.5	16.4	91	E	.....	.....	.....	.....	10n;fg	.....	.....	0.22	5.6	Fog & mist	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.80	756.9	30.02	762.5	66	18.9	87	E	1	0.4	.....	.....	10ks	.....	NE	0	0	Cloudy.	
Alpena, Michigan	29.44	747.8	30.07	763.8	62	16.7	77	NW	3	1.3	.....	1cs	Haze	W	.....	0	0	Clear.	
Atlantic City, New Jersey	29.93	760.2	29.95	760.7	67	19.4	100	NE	9	4.0	.....	.....	10n	.....	NE	0.09	2.3	Light rain	
Augusta, Georgia	29.79	756 7	29.96	761.0	83	28.3	67	NE	2	0.9	.....	Haze	Haze	.....	.....	0	0	Clear.	
Baltimore, Maryland	29.93	760.2	29.98	761.5	71	21.7	71	NE	5	2.2	.....	5c	Sm'e	NE	Calm	0	0	Fair.	
Barnegat, New Jersey	29.95	760.7	29.97	761.2	69	20.6	85	NE	20	8.9	.....	.....	10ks	.....	E	1.55	39.4	Cloudy.	
Bismarck, Dakota	27.99	710.9	29.85	758.2	73	22.8	95	Calm	0	0	.....	.....	10s	.....	SE	2.05	52.1	Cloudy.	
Boerne, Texas	28.42	721.9	.....	.....	75	23.9	90	SE	8	3.6	.....	8ĸ	0	SE	.....	0.27	6.9	Clearing	
Boise City, Idaho	26.96	684.8	29.92	760.0	58	14.4	63	S	4	1.8	.....	5k	0	Calm	.....	0	0	Fair	
Boston, Massachusetts	29.89	759.2	30.04	763.0	63	17.2	89	E	8	3.6	.....	.....	10s;fg	.....	E;Calm	0.22	5.6	Cloudy	
Brackettville, Texas	28.74	730.0	29.72	754.9	76	24.4	95	SE	8	3.6	.....	0	10n	.....	SE	1.32	33.5	Light rain	
Breckenridge, Minnesota	28.78	731.0	29.71	754.6	71	21.7	95	SE	14	6.3	.....	.....	10s	.....	SE	2.29	58.2	Cloudy.	
Brownsville, Texas	29.86	758.4	29.92	760.0	81	27.2	87	SE	5	2.2	.....	.....	10s	.....	SE	0.72	18.3	Cloudy	
Buffalo, New York	29.36	745.7	30.04	763 0	66	18.9	84	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Burkes, Arizona	.....	.....	.....	.....	84	28.9	50	SE	.....	.....	1	.....	10s	.....	SE	0	0	Cloudy.	
Burlington, Vermont	29.80	756.9	30.06	763.5	65	18.3	78	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Cairo, Illinois	29.65	753.1	30.03	762.7	74	23.3	72	E	4	1.8	.....	2ck	0	N	.....	0.70	17.8	Fair.	
Camp Apache, Arizona	.....	.....	.....	.....	69	20.6	84	SW	.....	.....	1	0	8s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.09	637 3	29.89	759.2	68	20.0	84	E	.....	.....	1	5k	5s	E	E	0.91	23.1	Cloudy	
Camp Verde, Arizona	26.62	676.1	30.11	764.8	71	21.7	85	Calm	.....	.....	0	.....	10n	.....	Calm	1.37	34.8	Light rain	
Campo, California	27.31	693.7	29.88	758.9	46	7.8	92	Calm	.....	.....	0	.....	Fog	.....	Calm	0	0	Foggy	
Cape Hatteras, N. Carolina	29.91	759.7	29.91	759.7	78	25.6	69	N	12	5.4	.....	0	5ks	.....	N	0	0	Fair.	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	75	23.9	81	NW	11	4.9	.....	0	0	.....	.....	0	0	Clear.	
Cape Lookout, N. Carolina	29.89	759.2	29.90	759.4	79	26.1	66	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Cape May, New Jersey	29.93	760.2	29.96	761.0	69	20.6	90	N	9	4.0	.....	0	0	.....	.....	0.22	5.6	Clear.	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Charleston, South Carolina	29.89	759.2	29.96	761.0	77	25.0	86	NE	8	3.6	.....	0	0	.....	.....	0.04	1.0	Clear.	
Cheyenne, Wyoming	24.06	611.1	30.00	762.0	64	17.8	68	Calm	0	0	.....	0	0	.....	.....	0.57	14.5	Clear.	
Chicago, Illinois	29.34	745 2	30.00	762.0	72	22.2	67	SE	3	1.3	.....	2k	0	Calm	.....	0	0	Fair.	
Cincinnati Ohio	29.38	746.2	30.02	762.5	67	19.4	71	NE	4	1.8	.....	2c	0	E	.....	0	0	Clear.	
Cleveland, Ohio	29.35	745.5	30.05	763.3	64	17.8	83	E	4	1.8	.....	0	Fog	.....	Calm	0	0	Clear.	
Coleman City, Texas	28.18	715.8	29.78	756.4	73	22.8	85	E	4	1.8	.....	5ck	2s	SE	E	0	0	Fair.	
Columbus, Ohio	29.22	742.2	30.03	762.7	67	19.4	74	N	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear.	
Conconi, Texas	28.05	712.5	29.66	753.4	71	21.7	90	E	8	3.6	.....	5c	5s	E	Calm	0	0	Cloudy.	
Corsicana, Texas	29.54	750.3	29.99	761.7	73	22.8	85	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Davenport, Iowa	29.41	747.0	30.03	762.7	68	20.0	79	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.	
Denison, Texas	29.21	741.9	29.97	761.2	77	25.0	77	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.78	629.4	30.00	762.0	63	17.2	83	S	4	1.8	.....	5c	0	Calm	.....	0.02	0.5	Fair.	
Des Moines, Iowa	29.07	738.4	29.90	759.4	78	25.6	73	S	8	3.6	.....	.....	10s	.....	S	0	0	Cloudy.	
Detroit, Michigan	29.41	747.0	30.07	763.8	63	17.2	83	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dodge City, Kansas	27.40	696.0	29.58	751.3	70	21.1	85	S	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Dubuque, Iowa	29.34	745.2	30.01	762.2	67	19.4	79	SE	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy.	
Duluth, Minnesota	29.31	744.5	29.96	761.0	67	19.4	84	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy.	
Eagle Pass, Texas	29.22	742.2	29.93	760.2	77	25.0	95	SE	12	5.4	.....	.....	10ks	.....	S	0.71	18.0	Cloudy.	
Eastport, Maine	29.97	761.2	30.04	763.0	58	14.4	70	N	12	5.4	.....	10k	0	NE	.....	Inap.	Ina p	Cloudy.	
Edinburg, Texas	.....	.....	.....	.....	81	27.2	83	SE	.....	.....	1	0	8ks	.....	SE	Inap.	Inap.	Fair	
El Paso, Texas	.....	.....	.....	.....	82	27.8	52	W	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Erie, Pennsylvania	29.35	745.5	30.04	763.0	70	21.1	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Escanaba, Michigan	29.44	747.8	30.08	764.0	61	16.1	94	N	3	1.3	.....	.....	Fog	.....	.....	0	0	Dense fog.	
Florence, Arizona	.....	.....	.....	.....	76	24.4	91	S	.....	.....	1	.....	10n	.....	S	2.05	52.1	Heavy rain.	
Fort Craig, New Mexico	25.47	646.9	29.53	750.0	71	21.7	62	NW	3	1.3	.....	.....	10s	.....	SE	0	0	Cloudy.	
Fort Davis, Texas	25.16	639.0	30.12	765.0	71	21.7	71	Calm	0	0	.....	.....	10n	.....	S	Inap.	Inap.	Light rain	
Fort Gibson, Indian Ter	29.43	747.5	29.94	760.5	79	26.1	82	E	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Fort Griffin, Texas	28.72	729.5	29.85	758.2	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.74	704.6	29.57	751.1	75	23.9	81	SE	7	3.1	.....	5k	0	SW	.....	0.07	1.8	Fair.	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.77	730.7	29.83	757.7	76	24.4	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fredericksburg, Texas	28.23	717.0	29.72	754.9	75	23.9	90	S	2	0.9	.....	.....	10ks	.....	S	0.49	12.4	Cloudy.	
Galveston, Texas	29.92	760.0	29.96	761.0	82	27.8	85	Calm	0	0	.....	2k	0	Calm	.....	Inap.	Inap.	Clear.	
Graham, Texas	28.90	734.0	29.91	759.7	76	24.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Grand Haven, Michigan	29.43	747.5	30.07	763.8	65	18.3	78	E	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear.	
Indianapolis, Indiana	29.28	743.7	30.03	762.7	68	20.0	74	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear.	
Indianola, Texas	29.93	760.2	29.95	760.7	83	28.3	87	SE	6	2.7	.....	2k	0	S	.....	0.95	24.1	Fair	
Jacksboro, Texas	28.84	732.5	29.92	760.0	73	22.8	63	S	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
Jacksonville, Florida	29.86	758.4	29.88	758.9	76	24.4	86	NW	4	1.8	.....	.....	10s	.....	N	0.29	7.4	Cloudy.	
Keokuk, Iowa	29.39	745.7	29.94	760.5	71	21.7	80	E	8	3.6	.....	0	9s	.....	W	0	0	Cloudy.	
Key West, Florida	29.93	760.2	29.96	761.0	85	29.4	72	W	5	2.2	.....	3c;k	0	N;W	.....	0	0	Fair	
Kittyhawk, North Carolina	29.90	759.4	29.93	760.2	77	25.0	73	NE	13	5.8	.....	0	0	.....	.....	0	0	Clear.	
Knoxville, Tennessee	29.01	736.8	29.98	761.5	67	19.4	74	NE	4	1.8	.....	6ck	0	NW	.....	0	0	Fair	
La Crosse, Wisconsin	29.27	743.4	29.97	761.2	74	23.3	63	SE	4	1.8	.....	2c	0	SE	.....	0	0	Clear	
La Mesilla, New Mexico	25.99	660.1	30.14	765.5	71	21.7	66	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair.	
Laredo, Texas	29.43	747.5	29.75	755.6	79	26.1	91	SE	6	2.7	.....	10cs	0	Calm	.....	1.23	31.2	Cloudy.	
Lead City, Dakota	24.82	630.4	30.10	764.5	68	20.0	79	S	3	1.3	.....	.....	10n	.....	Calm	Inap	Inap.	Light rain	
Leavenworth, Kansas	29.07	738.4	29.86	758.4	77	25.0	82	S	2	0.9	.....	2ck	0	SW	.....	0	0	Fair	
Los Angeles, California	29.49	749.0	29.82	757.4	61	16.1	82	Calm	0	0	.....	0	5s	.....	E	0	0	Fair.	
Louisville, Kentucky	29.48	748.8	30.02	762.5	68	20.0	70	N	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Smoky.	
Lynchburg, Virginia	29.32	744.7	29.97	761.2	73	22.8	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Marquette, Michigan	29.34	745.2	30.01	762.2	70	21.1	70	SW	4	1.8	.....	2c	0	W	.....	0	0	Clear.	
Mason, Texas	28.34	719.8	30.01	762.2	75	23.9	90	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy.	
Memphis, Tennessee	29.67	753.6	29.97	761.2	79	26.1	82	NE	2	0.9	.....	1c	0	Calm	.....	0.02	0.5	Clear.	
Milwaukee, Wisconsin	29.33	745.0	30.04	763.0	62	16.7	94	NW	4	1.8	.....	2cs	Fog	.....	.....	0	0	Clear	
Mobile, Alabama	29.90	759.4	29.94	760.5	79.5	26.4	87	N	5	2.2	.....	1c	2s	Calm	Calm	2.05	52.1	Fair.	
Montgomery, Alabama	29.70	754.4	29.92	760.0	77	25.0	77	Calm	0	0	.....	0	0	.....	.....	0.84	21.3	Clear.	
Morgantown, West Virginia	28.98	736.1	29.99	761.7	69	20.6	80	N	2	0.9	.....	2k	0	NW	.....	0	0	Clear.	
Mt. Washington, N. H.	23.91	607.3	30.27	768.8	41	5.0	100	NE	7	3.1	.....	.....	Fog	.....	NE	0.16	4.1	Foggy	
Nashville, Tennessee	29.48	748.8	29.99	761.7	73	22.8	72	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear.	
New Haven, Connecticut	29.91	759.7	30.02	762.5	68	20.0	79	NE	13	5.8	.....	5k	0	NE	.....	0.60	15.2	Fair.	
New London, Connecticut	29.96	761.0	30.01	762.2	66	18.9	84	NE	8	3.6	.....	2ck	2ks	NE	Calm	0.54	13.7	Fair.	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	83	28.3	79	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Newport, Rhode Island	29.96	761.0	30.01	762.2	67	19.4	79	NE	6	2.7	.....	.....	10ks	.....	N	0	0	Cloudy.	
New York, New York	29.84	757.9	30.01	762.2	68	20.0	74	NE	12	5.4	.....	1k	8ks	NE	NE	0.46	11.7	Fair.	
Norfolk, Virginia	29.88	758.9	29.94	760.5	76	24.4	73	E	1	0.4	.....	2k	0	NE	.....	0	0	Clear	
North Platte, Nebraska	27.00	685.8	29.42	747.3	72	22.2	62	S	2	0.9	.....	0	0	.....	.....	0	0	Clear.	
Olympia, Washington Ter.	29.96	761.0	30.00	762.0	43	6.1	100	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog.	
Omaha, Nebraska	28.76	730.5	29.76	755.9	79	26.1	87	SE	3	1.3	.....	2c	0	Calm	.....	0	0	Clear.	
Oswego, New York	29.74	755.4	30.04	763.0	68	20.0	84	N	1	0.4	.....	0	0	.....	.....	0	0	Clear.	
Pembina, Dakota	28.96	735.6	29.74	755.4	68	20.0	90	S	8	3.6	.....	2ck	0	SW	.....	0.03	0.8	Clear.	
Philadelphia, Pennsylvania	29.94	760.5	29.98	761.5	68	20.0	79	NE	16	7.2	.....	5c;k	0	Calm;NE	.....	Inap.	Inap.	Fair.	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Phœnix, Arizona	28.59	726.2	.....	.....	82	27.8	79	E	.....	.....	1	.....	10s	.....	Calm	0.19	4.8	Cloudy	
Pike's Peak, Colorado	18.09	459.5	30.30	769.6	38	3.3	45	S	12	5.4	.....	8c	0	S	.....	0	0	Fair	
Pioche, Nevada	23.95	608.3	29.72	754.9	66	18.9	64	SE	14	6.3	.....	2ck	2s	S	Calm	0	0	Fair	
Pittsburg, Pennsylvania	29.23	742.4	30.02	762.5	61	16.1	88	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.41	747.0	30.05	763.3	70	21.1	80	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.02	762.5	30.07	763.8	62	16.7	83	E	4	1.8	.....	8k	2s	N	E	0.02	0.5	Cloudy	
Portland, Oregon	29.90	759.4	30.01	762.2	51	10.6	86	NW	4	1.8	.....	0	Fog	.....	SE	0	0	Clear	
Prescott, Arizona	24.66	626.4	30.02	762.5	63	17.2	94	Calm	0	0	.....	.....	10s	.....	Calm	0.65	16.5	Cloudy	
Pilot Point, Texas	29.22	742.2	30.02	762.5	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.92	760.0	29.94	760.5	85	29.4	76	W	13	5.8	.....	5k	0	W	.....	0.60	15.2	Fair	
Red Bluff, California	29.43	747.5	29.78	756.4	64	17.8	67	N	2	0.9	.....	.....	10ks	.....	Calm	Inap.	Inap.	Cloudy	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.45	748.0	30.04	763.0	67	19.4	79	W	3	1.3	.....	0	Sm'e	.....	Calm	0	0	Clear	
Roseburg, Oregon	29.37	746.0	29.94	760.5	48.5	9.2	93	Calm	0	0	.....	0	2s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.76	755.9	29.84	757.9	56	13.3	75	S	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.02	762.5	71	21.7	71	E	6	2.7	.....	.....	10ks	.....	Calm	0	0	Cloudy	
St. Marks, Florida	29.88	758.9	29.89	759.2	77	25.0	91	NW	5	2.2	.....	0	0	.....	.....	0.36	9.1	Clear	
St. Paul, Minnesota	29.07	738.4	29.86	758.4	69	20.6	79	SE	16	7.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Salt Lake City, Utah	25.51	647.9	29.84	757.9	70	21.1	53	S	4	1.8	.....	5k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.24	742.7	29.79	756.7	77	25.0	95	E	4	1.8	.....	.....	10s	.....	E	0.67	17.0	Cloudy	
San Diego, California	29.81	757.2	29.88	758.9	65	18.3	68	N	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Sandusky, Ohio	29.42	747.3	30.06	763.5	70	21.1	85	N	8	3.6	.....	5k	0	N	.....	Inap.	Inap.	Fair	
Sandy Hook, New Jersey	29.96	761.0	30.00	762.0	67	19.4	89	NE	17	7.6	.....	5ck	0	NE	.....	0.19	4.8	Fair	
San Francisco, California	29.76	755.9	29.83	757.7	54	12.2	80	SW	4	1.8	.....	5ck	0	Calm	.....	Inap.	Inap.	Fair	
Santa Fé, New Mexico	23.34	592.8	29.88	758.9	61	16.1	50	E	6	2.7	.....	0	1s	.....	Calm	0	0	Clear	
Savannah, Georgia	29.83	757.7	29.92	760.0	77	25.0	91	NE	6	2.7	.....	8k	0	NE	.....	1.75	44.5	Fair	
Shreveport, Louisiana	29.77	756.1	29.98	761.5	80	26.7	82	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.24	615.7	.....	.....	65	18.3	78	Calm	0	0	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Smithville, North Carolina	29.90	759.4	29.93	760.2	76	24.4	91	N	5	2.2	.....	0	1ks	.....	N	0.17	4.3	Clear	
Springfield, Massachusetts	29.85	758.2	29.98	761.5	67	19.4	74	NE	5	2.2	.....	.....	10ks	.....	NE	0.79	20.1	Cloudy	
Stockton, Texas	26.88	682.7	29.88	758.9	69	20.6	56	SE	3	1.3	.....	.....	10n	.....	SE	0.07	1.8	Light rain	
Thatcher's Island, Mass	29.98	761.5	30.04	763.0	60	15.6	88	NE	20	8.9	.....	0	5s	.....	NE	0.10	2.5	Foggy	
Toledo, Ohio	29.40	746.7	30.06	763.5	65	18.3	78	N	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Tucson, Arizona	27.11	688.6	29.66	753.4	74	23.3	85	S	3	1.3	.....	.....	10ks	.....	S	1.01	25.7	Cloudy	
Tybee Island, Georgia	29.90	759.4	29.93	760.2	79	26.1	87	NE	13	5.8	.....	0	5ks	.....	NE	0.16	4.1	Fair	
Umatilla, Oregon	29.59	751.6	.....	.....	50	10.0	65	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Blank	Blank	Cloudy	
Vicksburg, Mississippi	29.73	755.1	29.98	761.5	81	27.2	83	Calm	0	0	.....	5c	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.26	616.2	29.74	755.4	65	18.3	49	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.52	749.8	29.89	759.2	54	12.2	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.89	759.2	30.00	762.0	70	21.1	75	NE	7	3.1	.....	5cs	0	W	.....	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	75	23.9	86	SW	.....	.....	2	.....	10n	.....	Calm	0.38	9.7	Light rain	
Wilmington, N. Carolina	29.86	758.4	29.93	760.2	74	23.3	81	NE	1	0.4	.....	0	0	.....	.....	0.60	15.2	Clear	
Winnemucca, Nevada	25.39	644.9	29.75	755.6	56	13.3	35	NE	14	6.3	.....	0	1s	.....	S	0	0	Clear	
Wood's Holl, Mass	29.96	761.0	30.01	762.2	66	18.9	78	NE	4	1.8	.....	.....	10ks	.....	N	0	0	Cloudy	
Yankton, Dakota	28.51	724.1	29.71	754.6	76	24.4	81	S	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.55	750.6	29.71	754.6	80	26.7	74	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.50	749.3	29.55	750.6	51.0	10.6	96	W	3	1.3	.....	4k	2s	NW	W	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.96	761.0	29.98	761.5	82	27.8	78	SE	2.4	1.1	.....	0	0	.....	.....	0	0	Clear	Chas. Hasselbrink.
Santiago de Cuba, W. I.	29.96	761.0	29.98	761.5	81	27.2	78	Calm	0	0	.....	2c	0	.....	.....	0	0	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	3	1.3	.....	2c	2k	E	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.13	765.3	30.14	765.5	80	26.7	91	Calm	0	0	.....	2c	2ks	W	SE	0.02	0.5	.....	James Gall.
Navassa, W. I.	29.92	760.0	30.00	762.0	84	28.9	.....	E	17.5	7.8	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	83	28.3	79	E	.....	.....	2	0	5k	.....	.....	0	0	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.26	641.6	.....	.....	66.5	19.2	87	Calm	0	0	.....	.....	10s;n	.....	.....	0.81	20.6	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Bracketville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.05	763.3	81	27.2	81	27.2	87	NW	6	2.7	.....	.....	2	.....	NW	0	0	.....	.....	Fair...	.....
Navy Yard, Portsmouth, N.H	30.04‡	763.0‡	.....	.....	60	15.6	50	NE	6	2.7	.....	.....	5	.....	.....	0.1	3.	.....	.....	Cloudy	.....
Naval Hospital, Yokohama, Japan	29.87*	758.7*	78.3	25.7	77.9	25.5	82	SSW	.....	.....	4	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Adams. S. 15° 50′, W. 175° 21′	30.13	765.3	79	26.1	79	26.1	95	SE	.....	.....	4	.....	2	.....	SE	.....	.....	.....	.....	Pleasant	...
Alliance, Villafranca, France	30.03‡	762.7‡	.....	.....	77	25.0	73	ESE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	.....
Ashuelot. N. 34° 12′, E. 137° 13′	29.95	760.7	84	28.9	84	28.9	88	SE	.....	.....	4	.....	2	.....	SE	.....	.....	Mod'ate	SE	Clear	.....
Alaska, S. 38° 36′, W. 56° 47′	29.90	759.4	58	14.4	50	10.0	93	NNW	.....	.....	3	.....	10	.....	NW	0.03	0.8	Long	NW	D. clouds	.....
Canonicus, New Orleans, La	30.00	762.0	57	13.9	82	27.8	83	W	.....	.....	2	.....	3	.....	.....	.....	.....	...	.....	Fair	.....
Colorado, New York, N. Y	29.95‡	760.7‡	.....	.....	67	19.4	79	NNE	9	4.0	.....	.....	8	.....	N	0.23	5.8	.....	.....	Hazy	.....
Constitution, Havre, France	29.92‡	760.0‡	.....	.....	68	20.0	79	ESE	.....	.....	4	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy	.....
Despatch, Constantinople, Turkey	29.91‡	759.7‡	.....	.....	76	24.4	77	NE	.....	.....	3	.....	2	.....	Calm	.....	.....	.....	.....	Clear	.....
Franklin, Norfolk, Va	30.08	764.0	78	25.6	72	22.2	100	NW	3.6	1.6	.....	.....	2	.....	NW	0	0	.....	.....	Clear	.....
Gettysburg Toulon, France	29.93‡	760.2‡	.....	.....	77	25.0	100	S	.....	.....	3	.....	2	.....	NW	0	0	.....	.....	Clear	.....
Hartford, Rio de Janeiro, Brazil	30.13	765.3	.....	.....	68	20.0	84	N	6.0	2.7	.....	.....	10	.....	.....	0	0	.....	.....	Foggy	.....
Marion, Barcelona, Spain	30.00	762.0	78	25.6	79	26.1	74	SSW	.....	.....	5	.....	2	.....	SSW	0	0	Smooth	.....	Fair	.....
Michigan, Chicago, Illinois	29.59	751.6	75	23.9	73	22.8	72	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	.....
Monocacy. Yokohama, Japan	29.84‡	757.9‡	.....	.....	77	25.0	91	S	.....	.....	3-4	.....	2	.....	ESE	.....	.....	.....	.....	Fair	.....
New Hampshire, Port Royal, S. C	30.09	764.3	79	26.1	77	25.0	91	NE	10	4.5	.....	.....	2	.....	N	0	0	.....	.....	Fair	.....
Onward, Callao, Peru	30.10†	764.5†	.....	.....	61	16.1	82	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty	.....
Passaic, Washington, D. C	.....	.....	.....	.....	70	21.1	90	NW	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	.....
Palos, Tientsin, China	29.84	757.9	69	20.6	67	19.4	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	.....
Plymouth. New York, N. Y	30.21	767.3	69	20.6	68	20.0	84	NNE	.....	.....	2	.....	8	.....	NNE	.....	.....	.....	.....	Cloudy	.....
Ranger. Hong-Kong, China	29.91	759.7	85	29.4	84	28.9	92	WSW	.....	.....	3	.....	8	.....	Calm	.....	.....	.....	.....	Fair	.....
Rio Bravo, Brownsville, Texas	29.87	758.7	81	27.2	81	27.2	96	SE	.....	.....	.....	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.	.....
Santee, Annapolis, Md	29.97‡	761.2‡	.....	.....	72	22.2	76	NNE	.....	.....	3	.....	2	.....	NNE	0	0	.....	.....	Fair	.....
St. Louis, League Island, Pa	29.92	760.0	70	21.1	69	20.6	80	NE	8	3.6	.....	.....	5	.....	NE	0.11	2.8	.....	.....	Cloudy	.....
Supply, Havre, France	29.92	760.0	67	19.4	69	20.6	65	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Misty	.....
Swatara, Boston, Mass	30.01‡	762.2‡	.....	.....	66	18.9	84	ENE	.....	.....	2	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	.....
Trenton, Cherbourg, France	29.80‡	756.9‡	.....	.....	68	20.0	75	ESE	.....	.....	2	.....	10	.....	S;E	0	0	.....	.....	Cloudy	.....
Tuscarora. N. 18° 05′, W. 103° 01′	29.70	754.4	79	26.1	79	26.1	91	NW	.....	.....	0-1	.....	8	.....	Calm	0	0	Long	WSW	Fair	.....
Vandalia, Villafranca, France	30.02‡	762.5‡	.....	.....	77	25.0	82	SE	.....	.....	1	.....	2	.....	SSW	.....	.....	.....	.....	Clear.	.....
Wabash, Boston, Mass	30.03‡	762.7‡	.....	.....	62	16.7	94	NE	5	2.2	.....	.....	10	.....	NE	0.7	18.	.....	.....	Light rain	...

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; **the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.** *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; **corrections applied** at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 38° 52′, W. 134° 09′		30.28*	769.1*	62	16.7	100	N			5		1		N	0	Mod'ate	NW	Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 43°, W. 125°		30.04†	763.0†				NNW			3						Mod'ate	NW	Fine; misty.	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China.		29.75	755.6	82	27.8	91	WSW	10	4.5			6		SW	0	Smooth		Lightning	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 42° 46′, W. 124° 50′		29.81†	757.2†	56	13.3	87	N			6		10		SE	0	Heavy	NW	Misty	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 51° 14′, W. 15° 50′		29.69*	754.1*	63	17.2	89	E			5				NE	0	Slight	W	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 50° 00′, W. 25° 48′		29.67*	753.6*	60	15 6	100	NNE			5				NE	0	Strong	NE	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 33° 53′, E. 137° 17′		29.63*	752.6*	81	27.2	87	SE			5		ks		SE		Rough	SSW	Squally	Capt. L. Myer.
S. S. Gaelic, N. 38° 08′, W. 146° 50′		30.17†	766.3†	68	20.0	95	Var.			4		c		Var.	Blank	Smooth	N	Squally	Capt. W. H. Kidley.
S. S. Oceanic, N. 47° 14′, E. 173° 33′		29.97	761.2	55	12.8	87	W			3		10n		S		2	wsw		Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 49° 47′, W. 9° 45′		29.48	748.8	64	17.8	??	S			5		3		S	3 hours	Rough	SW	Showery	Capt. T. H. Lamke.
S. S. Braunschweig, N. 48° 50′ W. 36° 13′		29.53	750.0	61	16.1	91	SE			6		10		SW	2 hours	4	SE	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, St. George's Channel		29.69*	754.1*	53	11.7	93	SE			4		10		NW	Heavy	Large	SSE	Raining	Captain Sargent.
S. S. Ohio, Philadelphia, Pa		29.94	760.5	70	21.1	85	NNE			3		7		NNE	Light			Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		30.01†	762.2†	77	25.0	100	ENE			2		4		ENE	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland	Capt. Randle.
S. S. Switzerland	Capt. Jackson.
S. S. Vaderland	Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian	Capt. W. Richardson.
S. S. Hibernian	
S. S. Scandinavian	

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Ship John Light-house		29.88	758.9	72	22.2	85	NE	10	4.5		2c		NE		0			Clear	Capt. James Jorgensen.
Schooner Florence, Godhavn, Greenland		30.13*	765.3*	42.0	5.6		E			3		10s						Foggy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 23, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	30.01	762.2	90.3	32.4	52	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.80	756.9	96.1	35.6	24	WNW	.....	.....	5	.....	2	.....	.....	0	0	Fair	Tourilliere.
La Calle	.....	.....	29.80	756.8	93.2	34.0	51	ENE	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Foufrede.
Tunis	.....	.....	29.88	759.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.00	762.0	91.4	33.0	.....	S	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.06	763.5	103.1	39.5	82	N	.....	.....	3	.....	3	.....	.....	0	0	Partly fair	Herbin.
Tebessa	.....	.....	29.93	760.2	93.2	34.0	.....	N	.....	.....	5	.....	8	.....	.....	Blank	Blank	Very cloudy	Watrin.
Geriville	.....	.....	30.13	765.2	84.2	29.0	29	S	.....	.....	3	.....	4	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.06	763.4	103.3	39.6	20	W	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Bertrand.
Biskra	.....	.....	29.94	760.4	105.4	40.8	23	E	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann. Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.35	745.5	29.88	758.9	75.0	23.9	65	SW	.....	.....	2	.....	10	.....	.....	0	0	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.19	741.5	29.94	760.4	70.2	21.2	55	ESE	.....	.....	2	.....	1	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.08	738.7	29.93	760.3	68.4	20.2	66	Calm	.....	.....	0	.....	9cs	.....	E	0	0	.....	Julius Mikolik.
Gratz	28.65	727.6	29.85	758.3	69.3	20.7	81	S	.....	.....	2	.....	5	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.57	725.7	29.95	760.7	67.5	19.7	52	NNW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. Reissenberg
Kremsmünster	28.44	722.3	29.73	755.2	65.5	18.6	79	NE	.....	.....	2	.....	8c;k	.....	.....	0.322	8.2	.....	Prof. C. Wagner
Lemberg	28.97	735.9	29.93	760.3	66.2	19.0	69	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.77	756.2	29.88	758.9	76.5	24.7	73	SE	.....	.....	2	.....	10s	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.54	750.4	29.99	761.8	70.3	21.3	35	NW	.....	.....	3	.....	2	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.79	756.7	29.89	759.3	77.9	25.5	51	Calm	.....	.....	0	.....	7	.....	.....	0	0	Cloudy	P. Busin.
Vienna	29.15	740.3	29.84	757.9	67.6	19.8	64	SSE	.....	.....	3	.....	9	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.20	716.3	29.67	753.6	61.9	16.6	89	WSW	.....	.....	2	.....	10	.....	.....	0.157	4.0	Raining	Prof. M. Passau.
Brussels	29.42	747.2	29.61	752.1	61.7	16.5	97	SW	.....	.....	1	.....	10	.....	WSW	1.087	27.60	.....	Royal Observatory
Furnes	29.60	751.8	29.62	752.4	65.5	18.6	93	SE	.....	.....	2	.....	10	.....	.....	0.370	9.4	.....	M. E. de Cae.
Maeseyck	29.54	750.3	29.67	753.5	60.1	15.6	93	SE	.....	.....	0	.....	10	.....	.....	0.016	0.4	Raining	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.83	757.7	29.93	760.2	56.2	13.4	.....	E	17	7.6	.....	.....	9	.....	.....	0.620	0.51	Overcast.. ..	W. Boswell.
Ardrossan	29.77	756.1	29.79	756.7	64	17.8	.....	E	.....	.....	4	.....	7	.....	.....	.....	.....	Misty.....	George Carrick.
Armagh, Observatory	.....	.....	29.73	755.1	58.3	14.6	.....	NE	15	6.7	.....	.....	10	.....	.....	.....	.....	Gloomy.....	S. Cali.
Bidston, (Liverpool Obs.)	.....	.....	29.59	751.6	60.0	15.6	.....	ENE	26	11.6	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.45	748.0	29.64	752.8	56.5	13.6	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.32	744.7	29.71	754.6	57.4	14.1	.....	E	.....	.....	4	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	30.01	762.2	30.04	763.0	85	29.4	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.56	750.8	61.5	16.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [H. C.
Cardington	.....	.....	29.58	751.3	63.4	17.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.40	746.7	29.53	750.0	67.2	19.6	.....	SE	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	Lt. W. G. Morris, R. E.
Dartmoor	28.05	712.5	29.48	748.8	60.0	15.6	.....	W	.....	.....	4	.....	5	.....	.....	.....	.....	Showery.....	Alexander Watt.
Donaghadee	29.71	754.6	29.74	755.4	60	15.6	.....	ESE	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.52	749.8	29.54	750 3	66	18.9	.....	SSE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.61	752.1	59.2	15.1	.....	E	8.6	3.8	.....	.....	10	.....	.....	.....	.....	Showery.....	Thomas Mackereth.
Falmouth, Observatory	29.28	743.7	29.50	749.3	64.8	18.2	.....	SE	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds....	The Staff.
Fort Napier, (Natal)	27.67	702.8	29.97	761.2	61.0	16.1	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.73	755.1	29.96	761.0	83	28.3	.....	SW	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.64	752.8	55	12.8	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.96	761.0	30.01	762.2	82.0	27.8	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Very fine.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.62	752.3	29.82	757.4	59.4	15.2	.....	ENE	.....	.....	5	.....	8	.....	.....	.....	.....	Gloomy.....	D. G. Maclean.
Great Yarmouth	29.62	752.3	29.63	752.6	61	16.1	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	G. T. Watson.
Greenwich, Royal Obs'y	29.35	745.5	29.51	749.5	66.6	19.2	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder-storm..	The Staff, for G. B. Airy.
Guernsey	29.28	743.7	29.49	749.0	66.5	19.2	.....	SE	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds....	Dr. S. E. Hoskins, F. R. S.
Helston	.....	.....	29.59	751.6	67	19.4	.....	SE	.....	.....	2	.....	2c	.....	.....	0.50	12.7	Fine	M. P. Moyle.
Holyhead	29.52	749.8	29.57	751.1	59	15.0	.....	ENE	.....	.....	6	.....	10	.....	.....	.....	.....	Misty.....	John Tilston.
Jersey	29.26	743.2	29.54	750.3	66.7	19.3	.....	SW	.....	.....	3	.....	8	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.51	749.5	68.0	20.0	.....	S	6	2.7	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.61	752.1	29.64	752.8	58	14 4	.....	E	.....	.....	6	.....	10	.....	.....	.....	.....	Raining.....	George Mitchell.
Leicester, Museum	.....	.....	29.57	751.1	59.3	15.2	.....	NE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Wm. J. Harrison, F. G. S.
Malta, (Mediterranean)	29.87	758.7	29.94	760.5	85	29.4	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.73	755.1	29.81	757.2	61	16.1	.....	E	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.97	761.2	85.5	29.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.42	747.3	29.61	752.1	58.7	14.8	.....	ENE	.....	.....	6	.....	10n;d	.....	ENE	1.057	26.85	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.04	737.6	29.56	750.8	58.0	14.4	.....	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.50	749.3	65	18.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Drizzling.....	H. E. Bellamy.
Plymouth	29.42	747.3	29.49	749.0	65.3	18.5	.....	SSE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	29.53	750.0	29.58	751.3	60	15.6	.....	NE	.....	.....	4	.....	10	.....	.....	Blank	Blank	Overcast.....	W. Kennedy.
Saint Ann's Head	29.35	745.5	29.50	749.3	64	17.8	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	Misty.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.98	761.5	59	15.0	.....	SE	17	7.6	.....	.....	7	.....	.....	.....	.....	D. clouds....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.94	760.5	81.2	27.3	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.42	747.3	29.69	754.1	56.9	13.8	.....	NE	.....	.....	1	.....	10	.....	.....	0.77	19.6	Raining	W. F. Cooper.
Silloth Rectory	29.73	755.1	29.75	755.6	57.9	14.4	84	E	.....	.....	5	.....	10	.....	.....	0.130	3.30	Overcast	C. Edith Redford.
Stonyhurst, Observatory	29.27	743.4	29.67	753.6	57.2	14.0	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	Raining.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.81	757.2	29.84	757.9	63	17.2	.....	S	.....	.....	2	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	29.95	760.7	61	16.1	.....	ESE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.54	750.3	73	22.8	.....	NW	.....	.....	4	.....	8	.....	.....	.....	.....	Raining.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.61	752.1	60.0	15.6	.....	NNE	19	8.5	.....	.....	10	.....	.....	.....	.....	D. clouds.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.61	752.1	60	15.6	82	N	.....	.....	2	.....	10n	.....	.....	0.7	18.	Raining.....	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.5	72.3	22.4	56	ESE	17.0	7.6	.....	0	2	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	29.95	760.7	30.04	763.0	52.0	11.1	87	WNW	8	3.6	.....	.....	7	.....	.....	0.15	3.8	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 45° 10', W. 55° 0'	4	.....	Overcast.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Quaile
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson. [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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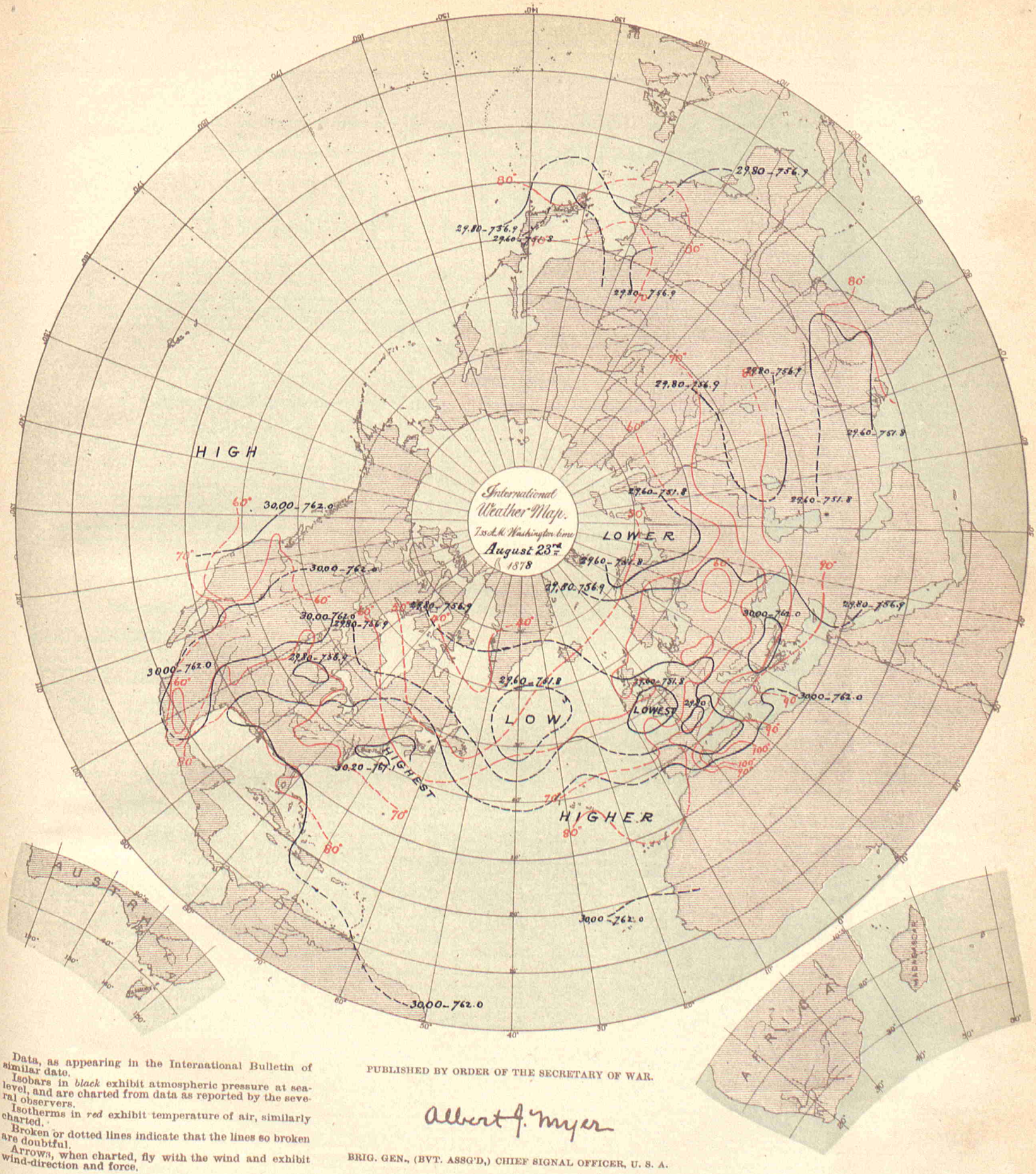
NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.26	667.0	.....	.....	66.2	19.0	95	NE	.....	.....	1	.....	9s	.....	.....	Inap.	Inap.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.91	759.8	29.96	761.0	65.3	18.5	64	SSE	.....	.....	2	.....	1	.....	.....	.....	.....	.....	.....
Fanöe	29 86	758.5	29.83	759.0	66.4	19.1	52	ESE	.....	.....	6	.....	5	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.62	752.4	29.67	753.5	40.3	4.6	96	S	.....	.....	4	.....	10	.....	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	29.75	755.6	29.79	756.7	49.3	9.6	56	W	.....	.....	6	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29 91	759.7	29.95	760.6	56.5	13.6	78	SSW	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
Vestervig	29.76	755.9	29.93	760.2	64.4	18.0	58	ENE	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.06	738.2	29.61	752.2	68.7	20.4	80	S	.....	.....	1	.....	10	.....	.....	0.201	5.10	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.67	753.6	29.75	755.6	78.4	25.8	56	SE	.....	.....	1	.....	10	.....	.....	0	0	Covered	M. Giraud, Director.
Bar-sur-Seine	29.13	739.8	29.66	753.4	66.6	19.2	80	SW	.....	.....	1	.....	10	.....	.....	0.539	13.7	Raining	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.34	745.3	29.61	752.1	71.6	22.0	58	SSW	.....	.....	3	.....	8	.....	SW	0.079	2.00	Very cloudy	Frere Eugene Marie, irector.
Besançon	28.75	730.2	29.60	751.7	77.0	25	54	.....	.....	.....	2	.....	2	.....	E	0.24	6.	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.27	743.4	29.81	757.1	66.2	19.0	81	W	.....	.....	3	.....	10kn	.....	SW	0.177	4.5	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.19	741.4	29.43	747.6	70.5	21.4	78	SSW	.....	.....	1	.....	4	.....	SSW	1.445	36.71	Stormy	The Staff.
Carcassonne, Normal School	29.34	745.2	29.73	755.2	78.1	25.6	70	E	.....	.....	2	.....	5	E	.....	0	0	Cloudy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.07	738.3	29.61	752.1	72.0	22.2	84	S	.....	.....	4	.....	8	.....	NW	0.20	5.	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.35	745.5	29.66	753.3	69.1	20.6	76	S	.....	.....	3	.....	5	NE	NE	0.650	16.5	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D.Obs	28.36	720.3	29.64	752.9	74.5	23.6	42	WSW	.....	.....	3	.....	.....	.....	SW	0.878	22.3	.....	Alluard, Director.
Commercy, Normal School	28.87	733.4	29.72	754.8	67.3	19.6	81	SW	.....	.....	3	.....	5kn	.....	SW	0.764	19.4	Cloudy	Dr. Coulet, Director.
Commune de Grèsque*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.42	747.2	29.63	752.6	64.0	17.8	92	W	.....	.....	4	.....	10	.....	W	0.083	2.1	Covered	Mouillot, Director.
Le Mans, Normal School	29.34	745.2	29.64	752.9	63.5	17.5	86	SSW	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N.School	28.87	733.3	29.74	755.3	77.4	25.2	61	S	.....	.....	6	.....	5	.....	SW	0.12	3.	Raining	Baudry, Director.
Lorient, Naval Observatory	29.41	746.9	29.59	749.4	63.7	17.6	86	S	.....	.....	3	.....	10	.....	SW	0.276	7.0	Covered	T. Carré, Director.
Mâcon, Normal School	.....	.....	.....	.....	71.8	22.1	84	S	.....	.....	4	.....	2	.....	S	0.783	19.9	Partly cl'dy	M. Galzin, Director
Mirecourt, Normal School	28.64	727.4	29.60	751.7	69.4	20.8	75	SSW	.....	.....	3	.....	5k	.....	SW	0.79	20.	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.67	753.6	29.86	758.5	77.0	25.0	61	NW	.....	.....	2	.....	2	.....	.....	0	0	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.80	731.5	29.83	757.6	69.8	21	73	N	.....	.....	4	.....	.....	N	N	0.87	22.	.....	M. Cantier.
Puy de Dome (Summit)	24.95	633.8	.....	.....	53.6	12.0	72	W	.....	.....	2	.....	.....	.....	W	2.338	59.4	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.67	753.6	29.70	754.4	68.0	20.0	80	SW	.....	.....	5	.....	.....	.....	SW	0.31	8.	Stormy	M. Giguel, Director.
Rouen, Normal School	29.50	749.2	29.58	751.3	73.6	23.1	50	SSW	.....	.....	1	.....	8	.....	S	0.047	1.2	Very cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.91	759.6	65.7	18.7	75	SSE	.....	.....	4	.....	8	.....	SSE	0.162	4.11	Very cloudy	M. H. Hercouet.
Tarbes, Normal School	28.93	734.9	29.97	761.3	73.4	23	66	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.95	760.6	29.97	761.3	81.3	27.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.31	8.	.....	L'Abbé Marchesi.
Lyons	.....	.....	30.01	762.2	86.5	30.3	38	.....	.....	.....	.....	.....	7	.....	.....	0	0	Stormy	L. Jays.
Marseilles, Observatory	.....	.....	29.75	755.7	77.2	25.1	63	E	.....	.....	2	.....	10	.....	.....	.....	.....	Rainy	The Staff.
Mont-Louis	24.77	629.2	30.09	764.2	63.3	17.4	41	SSW	26.1	11.67	.....	.....	4	.....	SW	0	0	.....	M. Cave.
Nice	.....	.....	29.81	757.1	76.3	24.6	72	E	.....	.....	3	.....	4	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.33	745.0	29.61	752.0	74.1	23.4	58	SSW	.....	.....	4	.....	6	.....	SSW	0.051	1.3	.....	Marié Davy, Director
Perpignan	.....	.....	29.73	755.2	75.2	24.0	70	E	1.8	0.83	.....	.....	10	.....	W	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.45	570.2	.....	.....	50.4	10.2	.....	SW	.....	.....	2	.....	2	.....	.....	0	0	Clear	Gen'l de Nansouty
Saint Maur, (near Paris)	29.46	748.3	29.63	752.5	68.9	20.5	66	SSW	.....	.....	2	.....	8	WSW	SSW	0.083	2.1	Solar halo	E. Renou.
Toulouse, Observatory	29.08	738.7	29.80	756.9	77.2	25.1	49	SSW	.....	.....	1	.....	5	.....	.....	0	0	.....	The Staff.
Tours	29.41	746.9	29.60	751.9	66.4	19.1	87	WSW	.....	.....	1	.....	8	.....	W	0.252	6.4	.....	C. Marquet.
Versailles	.....	.....	29.61	752.2	74.8	23.8	47	SW	.....	.....	4	.....	8	.....	.....	0.058	1.48	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.82	757.4	29.84	758.0	71.6	22.0	93	Calm	0	0	.....	.....	10n	.....	.....	0.488	12.4	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0–10	Up'er 0–10	Low'r 0–10	Upper From—	Lower. From—	Inches.	Millimeters.		
Bamberg	28.92	734.5	29.73	755.2	68.0	20.0	69	S			1		5	S		0.08	2.	Rain and fog	Prof. Dr. Hoh.
Berlin	29.72	754.8	29.88	759.0	71.8	22.1	52	SE			1		6			0	0		Prof. Arndt.
Breslau	29.43	747.4	29.95	760.8	73.0	22.8	82	ESE			3		3			0	0		Royal University Obs'y
Carlsruhe	29.29	743.9	29.70	754.3	70.0	21.1	81	E			1		8			0.185	4.7	Thunder-storm	Albert Senz.
Cassel	29.20	741.7	29.80	757.0	63.0	17.2	83	E			3		9	SW		0	0		Dr. H. Möhl.
Crefeld	29.47	748.5	29.63	752.6	61.7	16.5	91	SE			3		10			0.16	4.	Raining	Director Lose.
Emden	29.67	753.7	29.71	754.7	69.3	20.7	68	E			0		4			0	0		Prof. Prestel.
Frankfort on the Main	29.34	745.3	29.70	754.3	64.0	17.8		E			1		10			0.161	4.1	Raining	Physical Society.
Friedrichshafen	28.39	721.1	29.78	756.3	66.7	19.3	79	NNW			2		8	WNW		0.354	9.0		M. Wilhelm.
Hamburg	29.78	756.4	29.85	758.1	67.5	19.7	51	SE			4		6c			0	0	Fair	Captain F. Hegemann.
Kiel	29.56	758.4	29.87	758.8	66.4	19.1	50	E			3		2			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.90	759.4	29.98	761.5	65.3	18.5	59	W			2		2			0.008	0.2		Prof. E. Luther.
Köslin			29.95	760.6	68.2	20.1		S			4		1			0	0		H. Müller.
Leipsic, Observatory	29.44	747.7	29.84	758.0	73.4	23.0	39	ESE			5		9			0	0		Prof. Bruhns.
Memel, Naval School	29.93	760.2	29.98	761.4	61.5	16.4	65	WNW			2		1k						Reinbrecht and Skalweit.
Neufahrwasser	29.99	761.8	30.01	762.2	65.5	18.6	59	NE			3		2			0	0		A. Lothes.
Posen	29.72	754.9	30.00	762.0	68.0	20.0	40	E			5		3			0	0		Dr. Magener.
Strassburg (in Alsace)	29.18	741.2	29.71	754.5	73.0	22.8	73	SSE			2		6	W		0.187	4.76		Astronomical Observatory.
Stuttgart	28.82	732.1	29.74	755.3	65.3	18.5	85	E			1		10			0.126	3.2	Rainy	Prof. Schoder.
Treves, (Trier)	29.17	740.8	29.68	753.9	68.9	20.5	73	SW			5		10			0.287	7.29		Prof. Flesch.
Weissenburg, (Bavaria)	28.30	718.7	29.74	755.5	68.2	20.1	66	ENE	6.5	2.9			10	SE		0	0	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.93	760.3	29.97	761.3	68.2	20.1	40	SE			3		5			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.1	29.90	759.5	89.4	31.9		NE			4.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.12	739.6	29.59	751.6	81.8	27.7	91	Calm					9	NE		1.41	35.8	D. clouds	
Bombay	29.60	751.9	29.64	752.9	77.9	25.5	97	WSW	10	4.5			10		WSW	2.28	57.9	Overcast	
Poona	27.67	702.9	29.67	753.5	77.0	25.0	80	WSW					9		WSW	0.12	3.0	Overcast	
Lahore	28.84	732.6	29.57	751.1	84.5	29.2	85	Calm	1.3	0.6			6		E	1.22	31.0	D. clouds	
Belgaum	27.19	690.7	29.74	755.4	72.0	22.2	93	W	9	4.0			10		W	0.35	8.9	Drizzling	
Roorkee	28.68	728.4	29.55	750.7	87.8	31.0	71	SW	1.8	0.8			8			0	0		
Agra	28.99	736.4	29.54	750.3	92.5	33.6	57	E					3			0	0		
Nagpur	28.54	725.0	29.57	751.2	81.3	27.4	82	SW	6.3	2.8			9	SW	NE	0.14	3.6	Gloomy	
Lucknow																			
Allahabad	29.24	742.6	29.54	750.3	86.4	30.2	80	NE	4.0	1.8			7	SE		0	0	D. clouds	
Patna	29.43	747.4	29.60	751.9	87.8	31.0	72	E	1.9	0.8			5	E	E	0	0	D. clouds	
Hazaribagh	27.63	701.8	29.62	752.3	79.3	26.3	79	ESE	12.8	5.7			2			0.06	1.5	Showery	
Cuttack	29.57	751.1	29.65	753.2	84.0	28.9	75	S	4.5	2.0			2			0.23	5.8	D. clouds	
Calcutta (Alipore)	29.65	753.0	29.67	753.6	84.0	28.9	77	S	5.0	2.2			2	SE		0	0	D. clouds	
Goalpara	29.26	743.2	29.64	752.9	83.9	28.8	79	Calm	2.6	1.2			4			1.96	49.8	D. clouds	
Chittagong	29.66	753.2	29.75	755.6	82.9	28.3	85	S	6.4	2.9			8			0	0	Misty	
Sibsagar	29.30	744.2	29.63	752.6	85.2	29.6	79	SW	3.2	1.4			10	W	W	0.55	14.0	Overcast	
Jubbulpore	28.27	717.9	29.62	752.2	82.2	27.9	77	SW	3.3	1.5			8			1.12	28.4	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.52	749.7	29.91	759.7	74.5	23.6	54	Calm	0	0	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.78	756.4	29.89	759.1	76.1	24.5	51	E	8.7	3.9	.....	.....	9	WSW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.67	753.6	29.85	758.3	76.3	24.6	54	.....	1.3	0.6	.....	.....	5	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	28.56	725.5	29.83	757.6	73.4	23.0	59	NE	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.34	745.2	29.84	757.8	76.6	24.8	68	E	.....	.....	4	.....	9	NE	.....	1.177	29.9	.....	Prof. Schiaparelli.
Moncalieri	28.92	734.6	29.79	756.7	71.2	21.8	75	NNW	3.1	1.4	.....	.....	10	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.95	710.0	29.79	756.6	74.1	23.4	55	WSW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.61	752.1	29.82	757.5	75.7	24.3	78	E	.....	.....	6	.....	10	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.70	754.4	29.87	758.6	78.3	25.7	60	SE	.....	.....	4	.....	10	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.55	750.5	29.85	758.3	77.5	25.3	60	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.60	751.7	29.84	758.0	88.7	31.5	23	S	.....	.....	4	.....	10	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.80	756.8	29.88	758.9	79.3	26.3	60	W	13.0	5.8	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.39	721.1	29.87	758.8	81.3	27.4	36	SSW	.....	.....	1	.....	10	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.73	755.2	29.90	759.5	86.9	30.5	41	S	11.2	5.0	.....	.....	9	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.79	756.7	29.98	761.5	82.2	27.9	51	SW	.....	.....	4	.....	3	NE	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.73	755.2	29.98	761.5	81.7	27.6	42	ENE	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.63	752.6	29.82	757.4	86.7	30.4	52	SE	.....	.....	4	.....	3	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.10	739.1	29.94	760.5	90.5	32.5	59	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.73	755.2	29.98	761.5	81.0	27.2	48	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.94	760.5	30.02	762.5	83.7	28.7	52	S	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.45	747.9	30.00	762.0	82.4	28.0	63	SSW	1.8	0.8	.....	.....	2	W	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.46	748.3	29.65	753.1	78.7	25.9	85	S	6.0	2.7	.....	.....	2s	.....	.....	0.37	9.40	Fair	
Tokei (Yeddo) Observatory	29.78	756.4	29.85	758.2	76.2	24.6	81	SSW	5.8	2.6	.....	.....	1s	.....	.....	0.140	3.56	Clear.	I. Arai, Director.
Tokei (Yeddo) University	29.77	756.1	29.83	757.6	76.4	24.7	86	S	19.2	8.6	.....	.....	.....	.....	.....	0	0	Clear	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	63.5	17.5	74	N	1.8	0.8	.....	6cs	0	S	.....	0.21	5.2	½ cloudy	L. Castillo, A. E.
Guadalajara	25.10	637.5	30.06	763.4	57.2	14.0	88	Calm	0	0	.....	0	4ks	.....	SE	Inap.	Inap.	½ cloudy	Prof. L. Perez.
Guanajuato	23.75	603.3	29.90	759.6	65.1	18.4	82	E	.....	.....	.....	0	8	.....	.....	0	0	Cloudy	Prof. V. Fernandez
Leon	24.45	621.2	29.96	761.6	63.7	17.6	88	NE	0.9	0.4	.....	1c	0	E	.....	0.28	7.0	Fair	Prof. M. Leal.
Mexico	23.16	588.4	30.16	766.0	57.2	14.0	85	Calm	0	0	.....	3s	0	.....	.....	0	0	Clear	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.5	17.5	96	Calm	0	0	.....	1c	8ks	.....	SE	0.13	3.2	Cloudy	M. V. de Leon, M. E
Puebla	23.40	594.5	30.07	763.7	55.2	12.9	83	NE	1.8	0.8	.....	0	3cs	.....	.....	0	0	Clear	Prof. B. Gonzalez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.19	766.7	62.0	16.7	56	ESE	0.9	0.4	.....	6	3	W	ESE	0.02	0.5	Very cloudy	G. Barroeta, M. D.
Vera-Cruz	29.95	760.8	29.98	761.4	80.6	27.0	84	NNW	2.9	1.3	.....	3c	3k	.....	.....	0	0	½ cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	58.1	14.5	77	SE	5.1	2.3	.....	0	9	.....	E	0	0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.25	590.5	29.99	761.9	53.6	12.0	85	ENE	1.8	0.8	.....	1	0	.....	.....	0	0	Clear	Prof. P. Spina, [M.M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.42	721.2	30.06	763.4	76.6	24.8	77	E	2.8	1.6	.....	0	5	.....	.....	0	0	½ cloudy	R. Banda, C. E.
San Juan E. Michapam	29.72	754.8	29.86	758.5	78.8	26.0	.....	Calm	0	0	.....	6c	2ck	W	NE	0	0	Cloudy	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.62	752.3	29.62	752.3	63.1	17.3	.....	SE	.....	.....	1	.....	.....	.....	.....	0.012	0.3	.....	
Groningen	29.68	753.8	29.73	755.2	66.6	19.2	.....	E	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Helder	29.67	753.6	29.67	753.6	64.4	18.0	.....	E	.....	.....	4	.....	.....	.....	.....	0.346	8.8	.....	
Hellevoetsluis	29.62	752.3	29.62	752.3	59.5	15.3	98	E	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.61	752.0	29.65	753.2	59.9	15.5	89	E	.....	.....	3	.....	10	.....	.....	0.091	2.3	Dull	H. v d Broek.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.87	758.7	29.93	760.1	61.5	16.4	58	NW	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	.....
Brönö	29.85	758.2	29.89	759.2	51.8	11.0	85	SSW	18	8	.....	.....	10	.....	.....	0.079	2.0	.....	.....
Christiania	29.80	756.8	29.94	760.4	66.2	19.0	67	WSW	4	2	.....	.....	5	.....	.....	0	0	.....	.....
Tromsö	29.54	750.2	29.58	751.3	47.1	8.4	70	SW	13	6	.....	.....	10	.....	.....	0.339	8.6	Heavy rain.	.....

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.96	761.0	30.15	765.7	75.6	24.2	97	W	12.5	5.6	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.0	30.01	762.2	76.6	24.8	40	W	9.4	4.2	.....	.....	5	WNW	.....	0.118	3.0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.09	764.3	30.18	766.5	78.6	25.9	70	SW	4.3	1.9	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.70	754.3	30.05	763.2	72.5	22.5	58	WSW	17.4	7.8	.....	.....	3	.....	.....	0.063	1.6	.....	The Staff.
Ponta Delgada, (Azores)	30.12	765.0	30.19	766.7	80.2	26.8	75	W	7.4	3.3	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 45′, W. 16° 38′	.....	.....	30.12	765.0	77.4	25.2	.....	N	.....	.....	4	.....	3	.....	N	4	.....	D. Cloud's	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	762.9	69.8	21.0	.....	WSW	.....	.....	1	.....	3	.....	WSW	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.90	759.5	82.4	28.0	.....	NNW	.....	.....	2	.....	9	.....	.....	2	N	Overcast	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.96	761.0	72.9	22.7	.....	W	.....	.....	1	.....	0?	.....	.....	2	.....	D. clouds?	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.58	751.4	29.99	761.8	66.7	19.3	58	N	2	1	.....	.....	2k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.56	750.7	29.97	761.2	61.0	16.1	66	W	2	1	.....	.....	6	.....	.....	.....	.....	Heavy clouds	Astronomical Obs.
Dorpat	29.62	752.3	29.85	758.3	63.1	17.3	60	W	4	2	.....	.....	7ck;s	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.74	755.4	29.76	755.9	61.3	16.3	74	NW	13	6	.....	.....	5kn	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[n;c	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.29	743.9	29.91	759.8	59.7	15.4	85	NW	4	2	.....	.....	8k;ks;	.....	.....	.....	.....	Raining	Physical Cabinet.
Nikolaiev	29.91	759 8	29.98	761.6	71.6	22.0	54	NNW	13	6	.....	.....	6k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.87	758.7	29.89	759.2	70.3	21.3	76	NW	11	5	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.29	743.9	29.82	757.5	60.8	16.0	59	N	13	6	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.50	749.3	29.70	754.4	64.9	18.3	69	WNW	18	8	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Archangel	29.48	748.7	29.50	749.2	53.4	11.9	85	W	13	6	.....	.....	10	.....	.....	.....	.....	Raining	Ogoroduikof.
Tiflis	28.36	720.4	29.69	754.2	82.2	27.9	57	NW	13	6	.....	.....	9n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.78	756.3	29.69	754.2	80.8	27.1	72	NE	4	2	.....	.....	10ks	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.37	746.1	29.64	752.8	59.4	15.2	86	N	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.84	732.5	29.74	755.4	71.6	22.0	59	S	2	1	.....	.....	9c;cs;ck	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.58	751.2	29.80	756.8	85.1	29.5	36	N	9	4	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.20	716.3	29.80	756.9	82.4	28.0	34	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.28	743.7	29.78	756.4	67.5	19.7	63	W	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.37	745.5	29.64	752.9	67.8	19.9	73	W	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Raining	Usolzef.
Peking, (China)	29.70	754.4	29.84	758.0	65.5	18.6	84	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.07 m., or 1,942.27 ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.64	752.8	29.74	755.4	86.0	30	55	SW	1.5	0.67	.....	.....	7	.....	.....	0	0	Light mist	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.70	754.3	29.75	755.7	81.7	27.6	40	NW	4.2	1.88	.....	2	1	W	.....	0.087	2.2	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.3	.....	.....	65.3	18.5	73	SW	14.9	6.67	.....	.....	9	.....	.....	0.236	6.0	Almost cov.	Domingo Martin y Perez
Madrid, Royal Observatory	27.70	703.7	29.84	757.8	76.3	24.6	32	SW	30.6	13.67	.....	0	8	.....	.....	0	0	Almost cov.	The Staff.
Murcia, Met. Obs'y	29.65	753.2	29.80	756.8	100.4	38.0	26	NNE	2.7	1.19	.....	.....	3	.....	.....	0	0	Almost clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.94	735.0	29.81	757.2	66.9	19.4	83	SW	19.9	8.89	.....	.....	9	.....	.....	0.268	6.8	Rainy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.4	29.96	761.0	82.2	27.9	80	SE	1.8	0.8	.....	4c	0	NE	.....	0	0	Fair	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	30.00	762.0	30.10	764.4	75.4	24.1	75	W	17.3	7.8	.....	1	5	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.95	761.4	30.07	763.7	84.2	29.0	84	SE	1.3	0.60	.....	7cs	2k	SE	SE	0.336	8.60	D. clouds	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer educed to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.63	752.5	29.67	753.5	59.0	15.0	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.78	756.5	29.84	757.8	62.6	17.0	43	N	.....	.....	2	.....	9	.....	.....	0	0	.....	
Hernosand	29.81	757.2	29.86	758.5	67.1	19.5	43	NW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Stockholm	29.76	755.9	29.94	760.4	63.3	17.4	60	N	.....	.....	4	.....	3	.....	.....	0	0	.....	
Wisby	29.85	758.2	29.91	759.7	61.2	16.2	77	NW	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.85	758.2	29.93	760.1	65.1	18.4	48	NW	8.5	3.8	.....	.....	3	NNE	NNW	0.004	0.09	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.41	721.6	29.80	756.9	66.9	19.4	74	NNW	.....	.....	3	.....	3	.....	.....	0.362	9.2	Cloudy	The Observatory.
Zurich	28.21	716.6	29.81	757.2	65.8	18.8	80	E	.....	.....	1	.....	10	.....	.....	0.748	19.0	Raining	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —6.1 mm.; Thermometer, —1.7 cent.; Relative Humidity, +18 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.01	762.2	73.8	23.2	64	NE	22	10.0	.....	.....	2	.....	NE	0.047	1.2	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	30.07	763.7	80.2	26.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.64	752.8	29.76	755.8	90.1	32.3	56	N	.....	.....	1	.....	3c	.....	.....	0	0	D. clouds....	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.09	764.3	30.16	766.1	59.2	15.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.81	757.2	30.10	764.5	65	18.3	.....	Calm	0	0	.....	0	2s	.....	N	0	0	Fair.....	W. R. Bigg.
*Chatham, N B	30.12	765.0	30.18	766.6	52	11.1	86	W	2	0.9	.....	2c	0	W	.....	0	0	Fair.....	G. A. Blair.
Charlottetown, P. E. Island.	30.09	764.3	30.13	765.3	59	15.0	70	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.92	760.0	30.11	764.8	61.8	16.6	93	SE	.....	.....	1	0	0	.....	.....	0	0	Clear.....	James Smith, M. A.
Dalhousie, N. B	30.00	762.0	30.17	766.3	53.5	11.9	86	W	.....	.....	1	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	29.89	759.2	29.93	760.2	53.2	11.8	90	Calm	.....	.....	.....	ck	0	.....	.....	Inap.	Inap.	Cloudy.....	W. H. Bevis.
*Father Point, Quebec	30.12	765.0	30.14	765.5	53	11.7	76	S	16	4.5	.....	5c	0	NE	.....	0	0	Fair.....	J. McWilliams.
Fredericton, N. B	30.16	766.1	30.22	767.6	54.0	12.2	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Prof. Harrison.
*Fort Garry Manitoba	29.17	740.9	29.96	761.0	66	18.9	84	N	10	4.5	.....	5k	5ks	N	N	0	0	Cloudy.....	James Stewart.
Granton, Ontario	29.02	737.1	30.08	764.0	64	17.8	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.98	761.5	30.12	765.0	58	14.4	69	N	7	3.1	.....	0	0	.....	.....	0	0	Clear.....	F. Allison, M. A.
Hamilton, Ontario	29.76	755.9	30.12	765.0	63.7	17.6	82	W	.....	.....	1	2c	0	S	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	29.88	758.9	29.91	759.7	47	8.3	85	N	.....	.....	4	.....	10	.....	.....	0.08	2.0	Foggy.....	E. Weedon.
*Kingston, Ontario	29.78	756.4	30.10	764.5	69	20.6	87	SE	1	0.4	.....	8k	0	Calm	.....	0	0	Fair.....	S. Woods, M. A.
Little Glace Bay, N. S	30.06	763.5	30.10	764.5	59.0	15.0	.....	NE	12	5.4	.....	2k	0	NE	.....	0	0	Fair.....	C. H. McLeod, C. E.
*Montreal, Quebec	29.95	760.7	30.14	765.5	63	17.2	79	E	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	C. H. Rigby.
*Parry Sound, Ontario	29.41	747.0	30.08	764.0	67	19.4	92	E	5	2.2	.....	0	0	.....	.....	0	0	Clear.....	Rev. R. Mosley.
Peterboro, Ontario	29.38	746.2	30.10	764.5	67.7	19.8	79	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine...	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.10	764.5	63	17.2	89	N	4	1.8	.....	0	0	.....	.....	0	0	Clear.....	H. Morgan.
Port Hastings, N. S	30.04	763.0	30.09	764.3	58.3	14.6	.....	NW	3	1.3	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.09	764.3	60	15.6	94	N	2	0.9	.....	0	0	.....	.....	0	0	Clear.	M. Payne.
*Quebec, Quebec	29.86	758.4	30.18	766.6	55	12.8	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.....	Capt. Ashe, R. N
*Rockliffe, Ontario	29.65	753.1	30.09	764.3	63	17.2	83	Calm	0	0	.....	2c	0	NW	.....	0	0	Fair.....	W. H. McIntyre.
St. Andrews, N. B	30.14	765.5	30.19	766.8	55	12.8	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Dr. Gove.
St. John, N. B	30.05	763.3	30.21	767.3	54	12.2	80	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	G. Murdock, C. E.
*Saugeen, Ontario	29.38	746.2	30.07	763.8	65	18.3	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	K. Stewart.
Stayner, Ontario	29.30	744.2	30.04	763.0	73	22.8	72	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy.	R. J. Cole.
Stratford, Ontario	28.84	732.5	30.09	764.3	61.9	16.6	96	Calm	0	0	.....	0	0	.....	.....	0	0	Hazy.....	C. J. MacGregor, M. A.
*Sydney, C. B	30.07	763.8	30.10	764.5	58	14.4	66	N	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.74	755.4	30.11	764.8	68	20.0	86	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear.	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	Clear.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	49.0	9.4	93	N	.....	.....	.....	.....	10n	.....	.....	Blank	Blank	Cloudy.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.93	760.2	30.15	765.8	67	19.4	69	S	6	2.7	.....	1ck	0	Calm	.....	0	0	Clear.	
Alpena, Michigan	29.37	746.0	29.99	761.7	65	18.3	78	Calm	0	0	.....	8ck	Haze	W	.....	0	0	Fair	
Atlantic City, New Jersey	30.14	765.5	30.16	766.1	69	20.6	70	NE	16	7.2	.....	5k	0	NE	.....	0.09	2.3	Fair	
Augusta, Georgia	29.91	759.7	30.09	764.3	77	25.0	69	NE	3	1.3	.....	2ck	2s;hz	NE	Calm	0	0	Fair	
Baltimore, Maryland	30.14	765.5	30.19	766.8	68	20.0	79	NE	6	2.7	.....	5k	Haze	NE	Calm	Inap.	Inap.	Fair	
Barnegat, New Jersey	30.15	765.8	30.17	766.3	68	20.0	60	NE	20	8.9	.....	5k	0	NE	.....	0	0	Fair	
Bismarck, Dakota	28.19	716.0	30.05	763.3	72	22.2	95	N	10	4.5	.....	.....	10s	.....	N	0.01	0.3	Cloudy	
Boerne, Texas	28.60	726.4	.....	.....	75	23.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.02	686.3	29.98	761.5	75	23.9	47	NW	12	5.4	.....	5k	0	SW	.....	0	0	Fair	
Boston, Massachusetts	30.06	763.5	30.21	767.3	61.5	16.4	75	Calm	0	0	.....	Haze	Haze	N	N	0.04	1.0	Hazy	
Brackettville, Texas	28.75	730.2	29.73	755.1	76	24.4	91	S	3	1.3	.....	.....	10s	.....	S	0	0	Cloudy	
Breckenridge, Minnesota	28.90	734.0	29.85	758.2	68	20.0	100	E	2	0.9	.....	.....	10ks	.....	W	0	0	Cloudy	
Brownsville, Texas	29.93	760.2	29.99	761.7	78	25.6	95	SE	2	0.9	.....	2ks	0	E	.....	0	0	Clear	
Buffalo, New York	29.40	746.7	30.08	764.0	68	20.0	74	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	83	28.3	56	Calm	.....	.....	0	2cs	0	Calm	.....	0	0	Fair	
Burlington, Vermont	29.91	759.7	30.16	766.1	64	17.8	78	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.69	754.1	30.06	763.5	75	23.9	77	NE	2	0.9	.....	5ck	0	NE	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	89	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.23	640.8	30.03	762.7	65	18.3	89	S	.....	.....	1	.....	Fog	.....	Calm	0.13	3.3	Foggy	
Camp Verde, Arizona	26.79	680.4	30.28	769.1	70	21.1	80	Calm	.....	.....	0	0	0	.....	.....	1.27	32.3	Clear	
Campo, California	27.38	695.4	29.96	761.0	46	7.8	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.03	762.7	30.04	763.0	75	23.9	68	NE	23	10.3	.....	2k	0	NE	.....	0.05	1.3	Fair	
Cape Henry, Virginia	30.11	764.8	30.13	765.3	69	20.6	90	NE	20	8.9	.....	.....	10s	.....	NE	0.26	6.6	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.03	762.7	76	24.4	69	NE	30	13.4	.....	8k	0	NE	.....	0.74	18.8	Cloudy	
Cape May, New Jersey	30.14	765.5	30.17	766.3	66	18.9	68	NE	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Castroville, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Charleston, South Carolina	30.02	762.5	30.08	764.0	75	23.9	81	NE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Cheyenne, Wyoming	24.12	612.6	30.06	763.5	57	13.9	87	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.33	745.0	29.99	761.7	70	21.1	80	S	5	2.2	.....	.....	10n	.....	NW	0.04	1.0	Light rain	
Cincinnati, Ohio	29.41	747.0	30.04	763.0	69	20.6	80	SE	3	1.3	.....	1ck	Fog	N	Calm	0	0	Clear	
Cleveland, Ohio	29.38	746.2	30.01	764.3	66	18.9	74	E	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.27	718.0	29.87	758.7	75	23.9	72	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.25	742.9	30.06	763.5	67	19.4	79	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.11	714.0	29.78	756.4	68	20.0	84	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.57	751.1	30.02	762.5	76	24.4	86	SE	1	0.4	.....	2ck	0	Calm	.....	0	0	Fair	
Davenport, Iowa	29.35	745.5	29.95	761.0	72	22.2	80	Calm	0	0	.....	.....	10s	.....	W	0.05	1.3	Cloudy	
Denison, Texas	29.26	743.2	30.02	762.5	79	26.1	82	SE	1	0.4	.....	2cs	0	Calm	.....	0	0	Fair	
Denver, Colorado	24.83	630.7	30.05	763.3	63	17.2	62	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.03	737.3	29.86	758.4	79	26.1	78	S	3	1.3	.....	5ck	0	W	.....	0	0	Fair	
Detroit, Michigan	29.42	747.3	30.07	763.8	64	17.8	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.45	697.2	29.63	752.6	74	23.3	72	S	8	3.6	.....	1c	0	E	.....	0	0	Clear	
Dubuque, Iowa	29.24	742.7	29.90	759.4	73	22.8	81	S	4	1.8	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Duluth, Minnesota	29.20	741.7	29.84	757.9	68	20.0	90	Calm	0	0	.....	5k	0	Calm	.....	Inap.	Inap.	Fair	
Eagle Pass, Texas	29.23	742.4	29.94	760.5	75	23.9	95	E	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Eastport, Maine	30.13	765.3	30.20	767.1	56	13.3	81	NW	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Edinburg, Texas	.....	.....	.....	.....	79	26.1	91	SE	.....	.....	1	.....	10ks	.....	SE	0	0	Cloudy	
El Paso, Texas	.....	.....	.....	.....	80	26.7	74	Calm	0	0	.....	0	5s	.....	Calm	0	0	Fair	
Erie, Pennsylvania	29.39	746.5	30.08	764.0	71	21.7	71	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.29	744.0	29.99	759.4	70	21.1	85	S	12	5.4	.....	.....	10s	.....	S	0	0	Cloudy	
Florence, Arizona	.....	.....	.....	.....	72	22.2	90	Calm	.....	.....	0	.....	10s	.....	S	0.20	5.1	Cloudy	
Fort Craig, New Mexico	25.56	649.2	29.62	752.3	68	20.0	84	NE	2	0.9	.....	5cs	0	NE	.....	0	0	Fair	
Fort Davis, Texas	25.26	641.6	30.24	767.6	74	23.3	63	NW	4	1.8	.....	2cs	0	SE	.....	0.62	15.7	Fair	
Fort Gibson, Indian Ter	29.49	749.0	30.00	762.0	76	24.4	91	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.77	730.7	29.99	761.7	73	22.8	76	S	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.82	706.6	29.64	753.4	75	23.9	77	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	29.89	759.2	78	25.6	78	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Fredericksburg, Texas	28.30	718.8	29.80	756.9	75	23.9	44	S	1	0.4	.....	0	8ks	.....	Calm	0	0	Cloudy	
Galveston, Texas	29.97	761.2	30.01	762.2	80	26.7	87	NW	12	5.4	.....	0	8ks	.....	Calm	0	0	Fair	
Graham, Texas	28.95	735.3	29.94	761.0	74	23.3	81	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Grand Haven, Michigan	29.39	746.5	30.02	762.5	68	20.0	84	SW	8	3.6	.....	.....	10n	.....	Calm	Inap	Inap.	Light rain	
Indianapolis, Indiana	29.29	744.0	30.01	763.0	69	20.6	75	E	2	0.9	.....	8cs	0	NW	.....	0	0	Fair	
Indianola, Texas	29.99	761.7	30.01	762.2	82	27.8	87	NE	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.99	734.0	29.90	761.7	76	24.4	77	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.98	761.5	30.00	762.0	82	27.8	67	NE	6	2.7	.....	2c	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.32	744.7	29.90	759.4	76	24.4	77	S	5	2.2	.....	4k	2s	W	Calm	0	0	Fair	
Key West, Florida	29.91	759.7	29.94	760.5	84	28.9	75	SW	7	3.1	.....	8cs	1ks	Calm	Calm	0	0	Cloudy	
Kittyhawk, North Carolina	30.05	763.3	30.04	764.0	72	22.2	76	NE	30	13.4	.....	.....	10ks	.....	NE	0.02	0.5	Cloudy	
Knoxville, Tennessee	29.10	739.1	30.07	763.8	68	20.0	74	Calm	0	0	.....	5ck	0	SW	.....	0	0	Fair	
La Crosse, Wisconsin	29.11	739.4	29.80	756.9	74	23.3	90	S	8	3.6	.....	10ck	0	SW	.....	0.06	1.5	Cloudy	
La Mesilla, New Mexico	26.09	662.7	30.24	768.1	69	20.6	90	Calm	0	0	.....	0	8s	.....	Calm	0.06	1.5	Fair	
Laredo, Texas	29.54	750.3	29.87	758.7	78	25.6	91	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.92	633.0	30.19	766.8	68	20.0	90	S	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Leavenworth, Kansas	29.11	739.4	29.90	759.4	76	24.4	82	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.59	751.6	29.93	760.2	55	12.8	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Louisville, Kentucky	29.51	749.5	30.05	763.3	69	20.6	75	N	3	1.3	.....	0	Sm'e	.....	N	0	0	Smoky	
Lynchburg, Virginia	29.48	748.8	30.11	765.5	74	23.3	67	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Marquette, Michigan	29.19	741.4	29.85	758.2	71	21.7	75	SE	4	1.8	.....	.....	10s	.....	SE	0	0	Cloudy	
Mason, Texas	28.41	721.6	30.10	764.5	72	22.2	90	SE	1	0.4	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Memphis, Tennessee	29.74	755.4	30.05	763.3	73	22.8	67	NE	2	0.9	.....	2ck	Sm'e	NE	Calm	0	0	Fair	
Milwaukee, Wisconsin	29.26	743.2	29.96	761.0	70	21.1	80	S	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Mobile, Alabama	29.96	761.0	30.00	762.0	78	25.6	86	N	4	1.8	.....	0	0	.....	.....	0.32	8.1	Clear	
Montgomery, Alabama	29.79	756.7	30.01	762.2	77	25.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	29.09	738.9	30.12	765.6	66	18.9	79	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Mt. Washington, N. H.	24.03	610.4	30.30	771.9	42	5.6	83	NE	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.54	750.3	30.06	763.5	66	18.9	89	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
New Haven, Connecticut	30.10	764.5	30.21	767.3	64	17.8	73	NE	5	2.2	.....	0	0	.....	.....	0.08	2.0	Clear	
New London, Connecticut	30.16	766.1	30.20	767.1	63	17.2	78	N	4	1.8	.....	0	1s	.....	Calm	0.03	0.8	Clear	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	83	28.3	79	N	6	2.7	.....	0	Sm'e	.....	Calm	0.53	13.5	Clear	
Newport, Rhode Island	30.14	765.5	30.19	766.8	62	16.7	83	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.03	762.7	30.20	767.1	67	19.4	64	NE	10	4.5	.....	2k	0	NE	.....	0	0	Fair	
Norfolk, Virginia	30.07	763.8	30.13	765.3	69	20.6	75	NE	14	6.3	.....	.....	10s	.....	NE	0	0	Cloudy	
North Platte, Nebraska	27.08	687.8	29.52	749.8	69	20.6	75	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.82	757.4	29.86	758.4	57	13.9	94	SW	8	3.6	.....	.....	Fog	.....	SW	0	0	Foggy	
Omaha, Nebraska	28.79	731.3	29.80	756.9	77	25.0	77	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.82	757.4	30.14	765.5	67	19.4	84	S	4	1.8	.....	2c	0	N	.....	0	0	Fair	
Pembina, Dakota	29.14	740.1	29.93	760.2	67	19.4	95	NW	10	4.5	.....	.....	10s	.....	NW	0	0	Cloudy	
Philadelphia, Pennsylvania	30.15	765.8	30.20	767.1	66	18.9	68	NE	9	4.0	.....	5ck	Sm'e	NE	Calm	0	0	Fair	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.81	731.8	.....	.....	80	26.7	78	Calm	.....	.....	0	5c	0	W	.....	1.08	27.4	Fair	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	40	4.4	56	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Pioche, Nevada	24.17	613.9	29.88	758.9	58	14.4	42	S	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.32	744.7	30.11	764.8	63	17.2	89	Calm	0	0	.....	2c	Fog	Calm	Calm	0	0	Fair	
Port Huron, Michigan	29.41	747.0	30.05	763.3	67	19.4	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Portland, Maine	30.04	763.0	30.19	766.8	61	16.1	82	W	7	3.1	.....	0	Fog	.....	.....	0	0	Clear	
Portland, Oregon	29.82	757.4	29.93	760.2	61	16.1	94	Calm	0	0	.....	.....	8ks;fg	.....	NE; Calm	0.47	11.9	Cloudy	
Prescott, Arizona	24.84	630.9	30.20	767.1	61	16.1	100	Calm	0	0	.....	.....	10s	.....	Calm	0.98	24.9	Cloudy	
Pilot Point, Texas	29.28	743.7	30.07	763.8	76	24.4	81	SE	1	0.4	.....	2ck	0	S	.....	0	0	Fair	
Punta Rassa, Florida	29.94	760.5	29.96	761.0	75	23.9	83	E	8	3.6	.....	.....	10s	.....	SW	1.05	26.7	Cloudy	
Red Bluff, California	29.60	751.8	29.95	760.7	58	14.4	64	S	3	1.3	.....	2c	Haze	Calm	Calm	0	0	Fair	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.59	749.3	30.10	764.5	66	18.9	74	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.38	746.2	29.94	760.5	56.5	13.6	97	Calm	0	0	.....	2k	5s	E	Calm	0.24	6.1	Cloudy	
Sacramento, California	29.87	758.7	29.95	760.7	56	13.3	81	SE	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.02	762.5	75	23.9	72	S	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
St. Marks, Florida	30.00	762.0	30.01	762.2	74	23.3	95	SE	2	0.9	.....	0	0	.....	.....	0.03	0.8	Clear	
St. Paul, Minnesota	28.99	736.3	29.76	755.9	73	22.8	85	N	8	3.6	.....	.....	10s	.....	Calm	0.64	16.3	Cloudy	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	67	19.4	74	NE	1	0.4	.....	.....	10s	.....	Calm	0.27	6.9	Cloudy	
San Antonio, Texas	29.32	744.7	29.88	758.9	73	22.8	95	E	1	0.4	.....	2c	0	Calm	.....	0	0	Clear	
San Diego, California	29.89	759.2	29.96	761.0	59	15.0	88	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.43	747.5	30.08	764.0	68	20.0	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	30.16	766.1	30.19	766.8	66	18.9	74	E	14	6.3	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.92	760.0	29.98	761.5	56	13.3	84	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	60	15.6	55	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
Savannah, Georgia	29.96	761.0	30.05	763.3	77	25.0	86	E	6	2.7	.....	1k	0	E	.....	0	0	Clear	
Shreveport, Louisiana	29.81	757.2	30.02	762.5	78	25.6	82	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.34	618.2	.....	.....	63	17.2	88	Calm	0	0	.....	.....	10s	.....	Calm	0.08	2.0	Cloudy	
Smithville, North Carolina	30.04	763.0	30.08	764.0	71	21.7	90	N	12	5.4	.....	0	1ks	.....	Calm	0.04	1.0	Clear	
Springfield, Massachusetts	30.02	762.5	30.15	765.8	63	17.2	78	Calm	0	0	.....	0	0	.....	.....	0.07	1.8	Clear	
Stockton, Texas	29.97	685.0	29.97	761.2	71	21.7	53	SE	10	4.5	.....	5k	0	SE	.....	0.25	6.3	Fair	
Thatcher's Island, Mass	30.15	765.8	30.20	767.1	61	16.1	94	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio,	29.40	746.7	30.06	763.5	68	20.0	79	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Dense haze	
Tucson, Arizona	27.27	692.6	29.82	757.4	73	22.8	76	Calm	0	0	.....	10k	0	S	.....	0.37	9.4	Cloudy	
Tybee Island, Georgia	30.02	762.5	30.05	763.3	79	26.1	78	E	18	8.0	.....	0	0	.....	.....	0.28	7.1	Clear	
Umatilla, Oregon	29.48	748.8	.....	.....	68	20.0	69	SW	4	1.8	.....	.....	10ks	.....	SE	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	46	7.8	100	N	.....	.....	.....	4	.....	10n	N	0.13	3.3	Raining	
Uvalde, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Vicksburg, Mississippi	29.79	756.7	30.04	763.0	76	24.4	91	Calm	0	0	.....	0	Fog	.....	.....	0.93	23.6	Clear	
Virginia City, Montana	24.37	619.0	29.85	758.2	64	17.8	78	SE	8	3.6	.....	.....	10n	.....	Calm	0.06	1.5	Light rain	
Visalia, California	29.60	751.8	29.98	761.5	52	11.1	73	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.08	764.0	30.20	767.1	68	20.0	84	NE	5	2.2	.....	5k	0	NE	.....	0.03	0.8	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	86	S	.....	.....	1	.....	10ks	.....	E	1.16	29.5	Cloudy	
Wilmington, N. Carolina	29.99	761.7	30.06	763.5	71	21.7	85	NE	11	4.9	.....	0	0	.....	.....	0.03	0.8	Clear	
Winnemucca, Nevada	25.61	650.5	29.97	761.2	53	11.7	54	S	11	4.9	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.13	765.3	30.18	766.6	64	17.8	72	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Yankton, Dakota	28.61	726.7	29.84	757.9	70	21.1	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.70	754.4	29.86	758.4	78	25.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.58	751.3	29.63	752.6	64.5	18.1	84	W	28	12.5	.....	2k	3s	W	SW	2.00	50.8	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.94	760.5	29.96	761.0	83	28.3	79	W	2.4	1.1	.....	8c	0	NW	.....	0	0	Fair	Chas. Hassolbrink.
Santiago de Cuba, W. I.	29.90	759.4	29.93	760.2	81	27.2	79	Calm	0	0	.....	8cs	0	SE	.....	Blank	Blank	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	84	28.9	75	E	3	1.3	.....	10c	0	E	.....	Blank	Blank	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	80	26.7	95	SE	7	3.1	.....	.....	10n	.....	SE	1.79	45.5	.....	James Gall.
Navassa, W. I.	29.92	760.0	30.00	762.0	83	28.3	.....	E	15.8	7.1	.....	.....	.....	.....	.....	0.13	3.3	Cloudy	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	83	28.3	71	NE	.....	.....	2	5k	7ks	E	.....	0	0	½ Cloudy	C. J. Hering
Medellin, Colombia, S. A.	25.29	642.4	.....	.....	64.5	18.1	72	Calm	0	0	.....	4c	0	.....	.....	0	0	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m.; Camp Verde, 3,510 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,860 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.12	765.0	84	28.9	84	28.9	81	SE	20	8.9	.....	.....	2	.....	SE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	30.19‡	766.8‡	.....	.....	58	14.4	88	SW	4	1.8	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.87*	758.7*	77.1	25.1	75.9	24.4	86	S	.....	.....	1	.....	0	.....	.....	Slight	Slight	.....	.....	Clear.....	
Adams. S. 17° 50′, W. 177° 05′.....	30.12	765.0	75	23.9	75	23.9	95	SE	.....	.....	4	.....	2	.....	SE	.....	.....	Mod'ate	S;E	Pleasant.....	
Alliance. Villafranca, France	29.84‡	757.9‡	.....	.....	76	24.4	73	E	.....	.....	1	.....	10	.....	E	.....	.....	.....	.....	Overcast.....	
Ashuelot. Yokohoma, Japan	30.00	762.0	82	27.8	80	26.7	78	S	.....	.....	2	.....	2	.....	Calm	.....	.....	Smooth	.....	Clear.....	
Alaska. S. 39° 36′, W. 56° 52′.....	30.22	767.6	55	12.8	44	6.7	61	S	.....	.....	3	.....	2	.....	SW	0.02	0.5	Long	SSW	D. clouds.....	
Canonicus, New Orleans, La.....	29.98	761.5	57	13.9	80	26.7	87	NNE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.....	30.16‡	766.1‡	.....	.....	67	19.4	69	ENE	5	2.2	.....	.....	5	.....	ENE	0	0	.....	.....	Hazy.....	
Constitution, Havre, France.....	29.53‡	750.0‡	.....	.....	68	20.0	90	SSE	.....	.....	2	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	30.01‡	762.2‡	.....	.....	76	24.4	68	NE	.....	.....	4	.....	2	.....	NE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.....	30.24	768.1	73	22.8	70	21.1	85	ENE	10.8	4.8	.....	.....	10	.....	NE	0.02	0.5	.....	.....	Cloudy.....	
Gettysburg Toulon, France.....	29.76‡	755.9‡	.....	.....	77	25.0	??	ENE	.....	.....	4–5	.....	10	.....	Calm	0	0	.....	.....	Overcast.....	
Hartford, Rio de Janeiro, Brazil ...	30.10	764.5	.....	.....	69	20.6	80	NNE	12.0	5.4	.....	.....	10	.....	.....	0	0	.....	.....	Hazy.....	
Marion, Barcelona, Spain.....	29.99	761.7	81	27.2	80	26.7	82	WSW	.....	.....	4	.....	2	.....	wsw	0	0	Smooth	.....	Cloudy.....	
Michigan, Chicago, Illinois.....	29.58	751.3	80	26.7	69	20.6	85	SSE	.....	.....	2	.....	10	.....	SSE	.....	.....	.....	.....	Raining.....	
Monocacy. Yokohama, Japan	29.77‡	756.1‡	.....	.....	78	25.6	78	SSE	.....	.....	1	.....	5	.....	SSE	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.....	30.24	768.1	78	25.6	77	25.0	82	NNE	14	6.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.12†	765.0†	.....	.....	61	16.1	82	W	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	67	19.4	100	NE	.....	.....	1	.....	2	.....	NE	0	0	.....	.....	Clear.....	
Palos, Tientsin, China.....	29.86	758.4	72	22.2	66	18.9	79	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Plymouth. New York, N. Y.....	30.36	771.1	68	20.0	67	19.4	74	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger. Hong-Kong, China.....	29.92	760.0	82	27.8	86	30.0	97	SW	.....	.....	2	.....	5	.....	Calm	.....	.....	.....	.....	Fair.....	
Rio Bravo, Brownsville, Texas.....	29.95	760.7	78	25.6	78	25.6	95	Calm	.....	.....	.....	.....	8	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.....	30.12‡	765.0‡	.....	.....	72	22.2	71	ESE	.....	.....	2	.....	2	.....	Calm	0.10	2.5	.....	.....	Fair.....	
St. Louis, League Island, Pa.....	30.07	763.8	78	25.6	68	20.0	70	NE	5	2.2	.....	.....	8	.....	NE	0	0	.....	.....	Fair.....	
Supply, Havre, France.....	29.61	752.1	70	21.1	71	21.7	75	WSW	.....	.....	1	.....	8	.....	.....	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.....	30.16‡	766.1‡	.....	.....	61	16.1	82	NNW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Trenton, Cherbourg, France.....	29.51‡	749.5‡	.....	.....	69	20.6	75	W	.....	.....	3	.....	7	.....	W	1.0	25.	.....	.....	Cloudy.....	
Tuscarora. N. 19° 10′, W. 104° 53′.....	29.73	755.1	79	26.1	80	26.7	87	N	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia, Villafranca, France.....	29.84‡	757.9‡	.....	.....	77	25.0	91	ESE	.....	.....	1	.....	8	.....	SE	.....	.....	.....	.....	Cloudy.....	
Wabash, Boston, Mass.....	30.17‡	766.3‡	.....	.....	61	16.1	82	NW	1	0.4	.....	.....	2	.....	SE	0	0	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level: corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0–10.	0–10.	0–10.	From—	From—					
S. S. Alaska																			
S. S. China, N. 38° 21′, W. 127° 28′		30.12*	765.0*	63	17.2	100	NNW			2		9		NW	0	Light	NW	Cloudy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama, N. 39° 30′, W. 124° 10′		30.03†	762.7†				Var.			1		Fog				Mod'ate	W	Foggy	Capt. Seabury.
S. S. City of Peking, Hong-Kong, China		29.77	756.1	78	25.6	??	WSW	8	3.6			7		SW	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 46° 49′, W. 124° 50′		29.87†	758.7†	60	15.6	88	N			3		10		NE	0	Very heavy	NW	D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zeland'a																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 50° 4′, W. 25° 9′		29.83*	757.7*	63	17.2	83	W			3				SW	Slight	Slight	W	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 50° 45′, W. 18° 29′		29.67*	753.6*	62	16.7	94	NNE			4				NE	0	Mod'ate	NE	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 32° 05′, E. 133° 17′		29.58*	751.3*	82	27.8	83	S			3		ks		SW		Mod'ate	SW	Showery	Capt. L. Myer.
S. S. Gaelic, N. 38° 08′, W. 152° 10′		30.12†	765.0†	70	21.1	??	SW			5		ks		SW	Blank	Heavy	SW	Squally	Capt. W. H. Kidley.
S. S. Oceanic, N. 48° 05′, E. 179° 15′		29.72	754.9	55	12.8	100	WSW			5		10n		SW		2	WNW		Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 49° 43′, W. 16° 31′		29.71	754.6	71	21.7	??	NNW			3		3		NNW	0	Mod'ate	NW	Fine	Capt. T. H. Lamke.
S. S. Braunschweig, N. 47° 49′ W. 42° 38′		29.60	751.8	62.5	16.9	75	WSW			4		8		WSW	2 hours	4	W		Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 51° 23', W. 16° 25'		29.77*	756.1*	62	16.7	88	ENE			3		5		WSW	0	Mod'ate	S	Raining	Captain Sargent.
S. S. Ohio, N. 39° 07' W. 72° 09'		30.08	764.0	67	19.4	84	NE			4		10		NE	Light	Small	NE	Dull	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.62†	752.3†	65	18.3	94	ESE			4		10		ESE				Rainy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Rundle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller, Fort Mifflin, Pa		30.10	764 5	69	20.6	70	NE	5	2.2			5k		NE	0			Clear	Capt. James Jorgensen.
Schooner Florence, Off Godhavn, Greenland		29.97*	761.2*	40.0	4.4		WSW			3	0	0						Fair	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 24, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:58 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Tolssier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer, corrected for instrum'tal error and temperature. Inches.	Barometer, corrected for instrum'tal error and temperature. Millimeters.	Barometer, reduced to sea-level. Inches.	Barometer, reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.99	761.8	86 7	30.4	56	NW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.82	757.3	84.2	29.0	64	NW	.....	.....	8	.....	3	.....	.....	0	0	Pretty fair	Tourilliere.
La Calle	.....	.....	29.82	757.4	86.9	30.5	64	NNW	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair	Foufrede.
Tunis	.....	.....	29.55	758.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	29.90	759.5	91.4	33.0	.....	S	.....	.....	5	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.06	763.4	85.1	29.5	88	WNW	.....	.....	3	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	29.86	758.5	100.4	38 0	.....	W	.....	.....	6	.....	4	.....	.....	0	0	Covered	Watrin.
Geriville	.....	.....	30.07	763.7	87.4	30.8	19	W	.....	.....	2	.....	4	.....	.....	0	0	Covered	Brugnaux.
Laghouat	.....	.....	30.00	762.1	96.8	36.0	24	NW	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.87	758.6	104.0	40.0	24	N	.....	.....	6	.....	2	.....	.....	0	0	Fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.09	738.8	29.61	752.1	71.2	21.8	74	NW	.....	.....	3	.....	10	.....	.....	0.295	7.5	Thunder-storm.	Prof Ivan Stozir.
Cracow, I. R. Observatory	29.01	736.8	29.75	755.6	70.2	21.2	59	NE	.....	.....	3	.....	6	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	28.95	735.3	29.80	756.9	66.0	18.9	88	Calm	.....	.....	0	.....	10cs	.....	.....	0	0	.....	Julius Mikotik.
Gratz	28.43	722.2	29.63	752.6	68.7	20.4	85	SE	.....	.....	1	.....	10	.....	.....	0	0	.....	Andreas Rospini.
Hermannstadt	28.40	721.4	29.78	756.3	66.0	18.9	66	SE	.....	.....	1	.....	10	.....	.....	0.035	0.90	Light rain	Prof. Reissenberg
Kremsmünster	28.32	719.2	29.61	752.2	63.7	17.6	92	W	.....	.....	1	.....	10cs	.....	.....	0.650	16.5	.....	Prof. C. Wagner
Lemberg	28.85	732.8	29.80	756.8	70.0	21.1	63	SE	.....	.....	2	.....	4	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.47	748.5	29.58	751.2	79.7	26.5	80	S	.....	.....	3	.....	10s	.....	.....	0.047	1.2	.....	I.R.Hydrographic Office
Szathmar	29.37	746.0	29.82	757.5	64.8	18.2	86	E	.....	.....	3	.....	10	.....	.....	0.091	2.3	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.50	749.4	29.61	752.0	77.5	25.3	67	ESE	.....	.....	1	.....	7	.....	.....	0	0	Cloudy	P. Busin.
Vienna	28.96	735.5	29.65	753.0	67.5	19.7	77	ESE	.....	.....	2	.....	10	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 348.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,268.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.354	9.0	.....	Prof. M. Passau.
Brussels	29.24	742.8	29.44	747.7	67.6	19.8	67	SSE	.....	.....	4	3	4	S	S	0.043	1.10	.....	Royal Observatory
Furnes	29.40	746.7	29.42	747.3	63.3	17.4	90	ESE	.....	.....	2	.....	10	.....	.....	0.331	8.4	Light rain	M. E. de Cae.
Maeseyck	29.41	746.9	29.53	750.1	69.4	20.8	64	SE	.....	.....	4	.....	7	.....	.....	0.012	0.3	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.60	751.8	29.70	754.4	57.9	14.4	.....	NE	17	7.6	.....	.....	10	.....	.....	0.240	6.10	Overcast.....	W. Boswell.
Ardrossan	29.57	751.1	29.59	751.6	60	15.6	.....	NE	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	George Carrick.
Armagh, Observatory	.....	.....	29.61	752.1	62.1	16.7	.....	NNE	10	4.5	.....	.....	5	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.48	748.8	62.0	16.7	.....	NW	10	4.5	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.42	747.3	29.61	752.1	59.8	15.4	.....	NNE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.10	739.1	29.50	749.3	63.4	17.4	.....	E	.....	.....	1	.....	8	.....	.....	0.40	10.2	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.99	761.7	30.02	762.5	81	27.2	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.45	748 0	65.1	18.4	.....	ESE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast.....	H.Todd. [H.C.
Cardington	.....	.....	29.46	748.3	69.6	20.6	.....	E	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E	29.29	744.0	29.42	747.3	67.2	19.6	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast.....	Lt. W. G. Morris, R. E.
Dartmoor	28.05	712.5	29.49	749.0	57.4	14.1	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Thunder-storm...	Alexander Watt.
Donaghadee	29.56	750.8	29.59	751.6	56	13.3	.....	NNE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	29.39	746.5	29.42	747.3	67	19.4	.....	ESE	.....	.....	2	.....	7	.....	.....	.....	.....	¾ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.48	748.8	64.2	17.9	.....	SE	3.8	1.7	.....	.....	9	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Falmouth, Observatory	29.31	744.5	29.53	750.0	66.7	19.3	.....	WNW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.63	701.8	29.93	760.2	67.5	19.7	.....	E	.....	.....	2	.....	8	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.81	757.2	30.04	763.0	77	25.0	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.60	751.8	66	18.9	.....	N	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.94	760.5	30.00	762.0	78.3	25.7	.....	W	.....	.....	5	.....	5	.....	.....	.....	.....	D. clouds.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.40	746.7	29.60	751.8	57.9	14.4	.....	NNE	.....	.....	6	.....	10	.....	.....	.....	.....	Drizzling.....	D. G. Maclean.
Great Yarmouth	29.46	748 3	29.47	748.5	66	18.9	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	Blue sky.....	G. T. Watson.
Greenwich, Royal Obs'y	29.28	743.7	29.44	747.8	62.2	16.8	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Rain & fog .	The Staff, for G.B. Airy.
Guernsey	29.29	744.0	29.51	749 5	65	18.3	.....	WNW	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.60	751.8	69	20.6	.....	NW	.....	.....	2	.....	2c	.....	.....	0.02	0.5	Fine.....	M. P. Moyle.
Holyhead	29.49	749.0	29.54	750.3	59	15.0	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.26	743.2	29.54	750.3	63.0	17.2	.....	W	.....	.....	6	.....	8	.....	.....	Blank	Blank	Threatening	J. Fisher.
Kew, Observatory	.....	.....	29.45	748.0	60.3	15.7	.....	ENE	1	0.4	.....	.....	10	.....	.....	.....	.....	Thunder-storm..	The Staff.
Kingstown	29.57	751.1	29.59	751.6	60	15.6	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.46	748.3	65.5	18.6	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.79	756.7	29.87	758.7	82	27.8	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.63	752.6	29.70	754.4	61	15.6	.....	NE	.....	.....	4	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.98	761.5	82.0	27.8	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.32	744.7	29.50	749.3	67.2	19.6	.....	NNE	.....	.....	2	.....	10k	.....	.....	E	0.435	11.05	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.97	735.8	29.47	748.5	64.1	17.8	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	D clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.47	748.5	68	20.0	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Threatening	H.E. Bellamy.
Plymouth	29.42	747.3	29.50	749.3	60.4	15.8	.....	NE	.....	.....	1	.....	10	.....	.....	.....	.....	Thunder-storm...	John Merrifield.
Roche's Point	29.57	751.1	29.61	752.1	59	15.0	.....	N	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.35	745.5	29.51	749.5	64	17.8	.....	N	.....	.....	3	.....	2	.....	.....	.....	.....	Blue sky.....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.81	757.2	58.6	14.8	.....	E	20	8.9	.....	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.85	758.2	78.4	25.8	.....	NE	.....	.....	2	.....	1	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.22	742.2	29.51	749.5	66.8	19.3	.....	NE	.....	.....	2	.....	9	.....	.....	0.35	8.9	Overcast.....	W. F. Cooper.
Silloth Rectory	29.47	748.5	29.50	749.3	65.3	18.5	74	SE	.....	.....	2	.....	8	.....	.....	0	0	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.11	739.4	29.51	749.5	62.7	17.1	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.69	754.1	29.72	754.9	57	13.9	.....	ESE	.....	.....	4	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C.H. Griffith, F.M.S
Thurso	.....	.....	29.78	756.4	60	15.6	.....	ENE	.....	.....	3	.....	7	.....	.....	.....	.....	.....	John Trotter.
Truro, Royal Institution	.....	.....	29.55	750.6	68	20.0	.....	NW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.64	752.8	62.0	16.7	.....	NW	10	4.5	.....	.....	6	.....	.....	.....	.....	D. clouds.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.74	755.4	61	16.1	82	NW	.....	.....	1	.....	9kn	.....	.....	0	0	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.92	760.0	30.11	764.8	73.0	22.8	63	ESE	18.0	8.0	.....	0	2	.....	ESE	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.14	765.5	30.23	767.8	57.0	13.9	70	NNW	4	1.8	.....	.....	10	.....	.....	0	0	Dull	R. L. J. Ellery.
Monach Lt-house, (Hebrides	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway. Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 44° 20', W. 57° 10'	2	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith	.....	.....	.....	Capt. D. W. A. Qualle
N. 50° 30', W. 6° 35'	4	WSW	D. clouds.....	Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	Capt. Alex. Simpson. [R.
Schooner Traveller	.....	.....	.....	Capt. W. Spratly.
Barque Virginia	.....	.....	.....	
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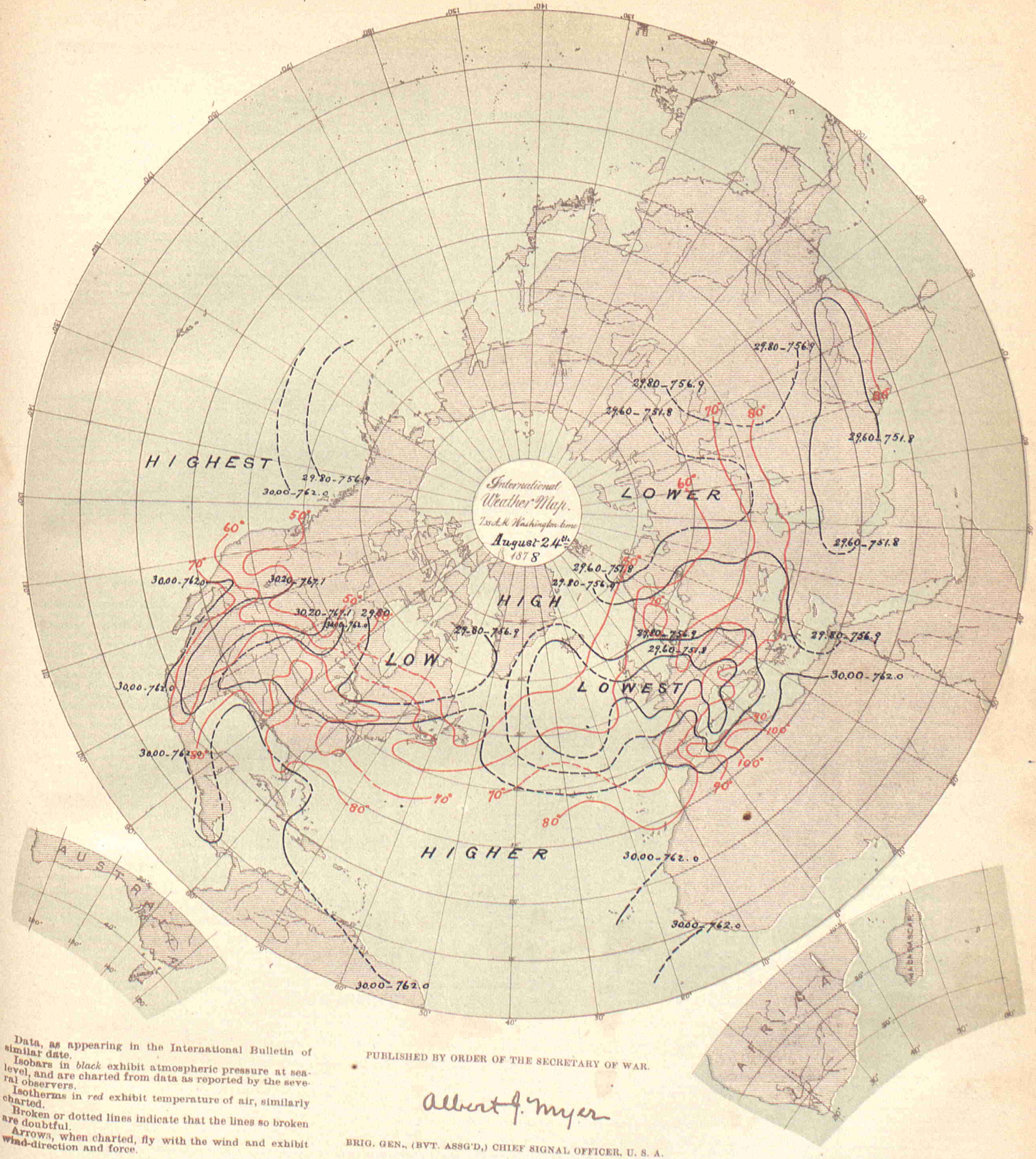
NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the cooperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.31	668.3			67.6	19.8	95	NE			1	6ck				0.4	10.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.78	756.5	29.83	757.7	66.6	19.2	51	SE			4		9						
Fanöe	29.63	752.6	29.65	753.1	67.5	19.7	68	ESE			6		9						
Godthaab, (Greenland)	29.74	755.4	29.78	756.5	42.8	6.0	90	S			4		10						
Stykkisholm, (Iceland)	29.53	750.1	29.58	751.2	47.5	8.6	89	SE			7		10					Raining	
Thorshavn, (Faröe)	29.83	757.6	29.86	758.5	56.7	13.7	85	E			2		10						
Vestervig	29.58	751.2	29.74	755.5	68.4	20.2	53	SE			6		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.04	737.5	29.59	751.5	63.3	17.4	88	W			4		10	W	W	0.205	5.20	Covered	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.65	753.1	29.73	755.1	76.6	24.8	55	W			1		2	WNW	WNW	0.843	21.4	Partly cl'dy	M. Girand, Director.
Bar-sur-Seine	29.04	737.5	29.58	751.2	61.7	16.5	79	S			1		8kn		SW	0.020	0.5	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.21	741.8	29.48	748.7	67.8	19.9	75	SW			1		10		WSW	0.098	2.50	Covered	Frere Eugene Marie, irector.
Besançon	28.74	730.0	29.60	751.9	65.3	18.5	80	SSE			2		10		ENE	0.51	13.	Covered	Normal School
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.12	739.7	29.65	753 2	67.1	19.5	76	SW			3		5kn		SW	0.24	6.	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.32	744.8	29.57	751.0	68.7	20.4	80	W			3		9		W	0.354	9.00	Squally	The Staff.
Carcassonne, Normal School	29.39	746.4	29.78	756.5	74.5	23.6	49	W			2		2	W		0.059	1.5	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	28.97	735.7	29.51	749.6	64.8	18.2	88	W			4		7		E	0.39	10.		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.22	742.3	29.53	750.1	64.4	18.0	80	SW			3		10	SW	SW	0.067	1.7	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.34	719.9	29.64	752.8	72.3	22.4	58	WSW			2				W	0.063	1.6		Alluard, Director.
Commercy, Normal School	28.77	730.8	29.62	752.4	63.3	17 4	72	SW			3		10kn		SW	0.071	1.8	Covered	Dr. Coulet, Director
Commune de Gréasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.48	748.8	29.70	754.3	64.2	17.9	98	SW			4		10		SW	0.472	12.0	Covered	Mouillot, Director.
Le Mans, Normal School	29.27	743.5	29.57	751.0	67.1	19.5	70	W			1		5		W	0.31	8.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.80	731.4	29.68	753.8	69.8	21	64	SW			4		5		SW	0.094	2.40	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.52	749.9	29.62	752.4	66.2	19 0	81	W			2		10		W	0.079	2.0	Covered	T. Carré, Director.
Mâcon, Normal School					68.7	20.4	91	SSW			3		10		SSW	0.335	8.5	Covered	M. Galzin, Director
Mirecourt, Normal School	28.52	724.5	29.54	750.2	60.4	15.8	85	SSW			3		10		SW			Thunder-storm	M. Barbier, Director.
Nismes, Normal School	29.67	753.6	29 86	758.5	77.0	25	60	S			2		2		S	0.28	7.	Slightly cl'dy	Boyer, Director.
Privas, Normal School	28.76	730.6	29.79	756.6	71.6	22	66	N			4			SE	N	0.953	24.2		M. Cantier.
Puy de Dome (Summit)	24.88	631.9			46.0	7.8	100	W			4					0.091	2.3	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.68	753.9	29.71	754.7	69.4	20.8	75	W			5		5		W	0	0	½ covered	M. Giguel, Director.
Rouen, Normal School	29.38	746.2	29.47	748.4	63.7	17.6	88	WNW			1		10		SW	0.220	5.6	Covered	F. Lucard, Director.
Saint Malo (Port)			29.55	750.5	69.6	20.9	65	W			3		5		WNW	0.846	21.50	Cloudy	M. H. Hercouet.
Tarbes, Normal School	28.97?	735.8?	30.01?	762.3?	71.6	22	74	W			2		2		W	0	0	Slightly cl'dy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.1	29.95	760.8	81.3	27.4										1.22	31.		L'Abbé Marchési.
Lyons			29.97	761.3	75.6	24.2	55						8			0.012	0.3		L. Jays.
Marseilles, Observatory			29.72	754.9	75.4	24.1	53	W			2		2			0	0		The Staff.
Mont-Louis	24.73	628.2	30.05	763.2	60.4	15.8	53	E	5.6	2.50			3		SE	0	0		M. Cave.
Nice			29.60	751.9	78.1	25.6	55	NW			8		1			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.22	742.2	29.50	749.2	60.4	15.8	100	WSW			2		10		W	0.583	14.8		Marié Davy, Director
Perpignan			29.76	756.0	77.9	25.5	44	N	16.8	7.50			8		SW	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.43	569.8			44.2	6.8		SW			1		8			0.398	10.1	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.35	745.4	29.51	749.6	60.3	15.7	94	SW			2		10		WSW	0.949	24.1	Raining	E. Renou.
Toulouse, Observatory	29.12	739.6	29.84	757.8	69.3	20.7	52	WNW			6		8			0	0		The Staff.
Tours																0.157	4.0		C. Marquet.
Versailles			29.50	749.4	68.4	20.2	59	W			1		10			0.305	7.76	Showery	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.90	759.5	29.93	760.1	71.8	22.1	76	Calm	0	0			10kn			0	0	Covered	Marc Deschevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.82	732.1	29.65	753.2	68.2	20.1	71	SE			1		9	S		0	0		Prof. Dr. Hoh.
Berlin	29.54	750.3	29.70	754.5	68.7	20.4	54	SE			1		10			0	0		Prof. Arndt.
Breslau	29.22	742.3	29.75	755.6	76.1	24.5	83	SE			3		7			0	0		Royal University Obs'y
Carlsruhe	29.17	741.0	29.58	751.4	66.9	19.4	77	SW			3		10			0.114	2.9		Albert Senz.
Cassel	29.00	736.5	29.60	751.7	70.5	21.4	72	E			2		7	SW		0.169	4.30		Dr. H. Möhl.
Crefeld	29.34	745.1	29.50	749.2	69.8	21.0	76	SE			2		8kn			0.08	2.	Raining	Director Lose.
Emden	29.46	748.3	29 50	749.3	72.0	22.2	68	SE			1		5			0.020	0.5		Prof. Prestel.
Frankfort on the Main	29.23	742.5	29.58	751.2	73.8	23.2		ESE			2		7			0.004	0.1		Physical Society.
Friedrichshafen	28.22	716.8	29.60	751.7	68.0	20.0	73	WSW			2		9	WSW		0.378	9.6		M. Wilhelm.
Hamburg	29.60	751.7	29.66	753.4	67.3	19.6	70	SE			4		10			0.020	0.5		Captain F. Hegemann.
Kiel	29.65	753.1	29.67	753.5	70.5	21.4	53	ESE			5		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.86	758.4	29.94	760 5	65.3	18.5	59	E			3		2			Inap.	Inap.		Prof. E. Luther.
Köslin			29.80	756.8	70.7	21.5		SE			4		1			0	0		H. Müller.
Leipsic, Observatory	29.26	743.2	29.66	753.4	72.3	22.4	57	SE			1		9			0.028	0.7		Prof. Bruhns.
Memel, Naval School	29.91	759.8	29.96	761.0	61.7	16.5	63	NW			2		0						Reinbrecht and Skalweit.
Neufahrwasser	29.91	759.8	29.93	760.2	64.8	18.2	71	NE			3		1			0	0		A. Lothes.
Posen	29.54	750.2	29.82	757.3	73.4	23.0	36	E			6		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.08	738.5	29.60	751.9	69.8	21.0	68	S			4		5	SW		0.096	2.43	Raining	Astronomical Observatory.
Stuttgart	28.71	729.1	29.62	752.3	62.6	17.0	38	E			1		8	W		0.035	0.9		Prof. Schoder.
Treves, (Trier)	29.03	737.4	29.55	750.5	70.3	21.3	61	SW			6		8			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.17	715.4	29.61	752.1	64.4	18.0	80	NNE	2.0	0.9			9ck		W	0.378	9.6		Dr. Von Bebber.
Wustrow, Naval School	29.76	755.8	29.80	756.8	69.6	20.9	54	E			3		10			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.48	748.7	29.85	758.1	89.1	31.7		SW			1.5							Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.17	740.9	29.64	752.9	80.0	26.7	93	SW					9		SW	0.92	23.4	Drizzling	
Bombay	29.64	752.8	29.68	753.8	82.7	28.2	84	WSW	9	4.0			7	ENE		0.48	12.2	D. clouds	
Poona	27.69	703.4	29.68	754.0	78.0	25.6	78	WSW					8		WSW	0	0	D. clouds	
Lahore	28.83	732.4	29.56	750.8	88.1	31.2	75	NW	1.1	0.5			8			0.14	3.6	D. clouds	
Belgaum	27.21	691.2	29.75	755.7	73.6	23.1	91	WSW	5	2.2			7		WSW	0.16	4.1	Showery	
Roorkee	28.67	728.2	29.55	750.6	84.8	29.3	81	SE	2.1	0.9			8			0	0		
Agra	28.98	736.1	29.53	750.0	93.7	34.3	61	E					3			0	0		
Nagpur	28.60	726.5	29.63	752.6	84.1	28.9	76	W	7.2	3.2			6		SE	0.02	0.5	Gloomy	
Lucknow																			
Allahabad	29.23	742.5	29.54	750.2	89.1	31.7	68	Calm	1.6	0.7			6	E		0	0	D. clouds	
Patna	29.41	747.0	29.59	751.5	87.6	30.9	78	E	1.5	0.7			6	E	E	0	0	D. clouds	
Hazaribagh	27.62	701.5	29.60	751.8	83.3	28.5	74	S	7.7	3.4			7					Raining	
Cuttack	29.58	751.3	29.65	753.2	86.1	30.1	67	S	3.7	1.6			3			0	0	D. clouds	
Calcutta (Alipore)	29.64	752.7	29.66	753.3	84.1	28.9	83	S	9.0	4.0			0			0	0	Blue sky	
Goalpara	29.24	742.6	29.62	752.4	82.2	27.9	85	WNW	2.0	0.9			4			0.37	9.4	D. clouds	
Chittagong	29.65	753.0	29.74	755.4	82.9	28.3	85	SSW	5.8	2.6			8			0	0	D. clouds	
Sibsagar	29.30	744.3	29.64	752.8	81.2	27.3	90	SW	5.0	2.2			10			1.18	30.0	Drizzling	
Jubbulpore	28.31	719.0	29.66	753.4	81.3	27.4	81	W	5.5	2.5			10			0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.21	741.9	29.60	751.9	73.4	23.0	73	N	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.46	748.2	29.56	750.9	78.1	25.6	62	WSW	4.3	1.9	.....	.....	1	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.39	746 5	29.57	751.1	77.2	25.1	61	N	0.7	0.3	.....	.....	5	W	.....	0.181	4.6	.....	Conte Alm. Da Schio.
Bergamo	28 31	719.1	29.58	751.2	73.4	23.0	66	WSW	.....	.....	1	.....	4	.....	.....	0.984	25.0	.....	Prof. Trionfini Carlo.
Milan	29.07	738 4	29.57	751.0	74.5	23.6	65	NW	.....	.....	2	.....	8	W	.....	1.020	25.9	.....	Prof. Schiaparelli.
Moncalieri	28.71	729.1	29.58	751.2	76.3	24.6	49	SSE	3.1	1.4	.....	.....	7	N	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.73	704.3	29.56	750.9	73.4	23.0	58	NNE	.....	.....	2	.....	1	S	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.34	745.3	29.56	750.7	79.7	26.5	55	SW	.....	.....	2	.....	2	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.43	747 6	29.60	751.7	74.5	23.6	73	WSW	.....	.....	4	.....	2	SE	.....	0.150	3.8	.....	Prof. G. M. Garibaldi.
Parma	29.29	743.9	29.60	751.7	77.5	25.3	63	SE	.....	.....	4	.....	8	.....	.....	0.020	0.5	.....	Prof. P. Pigorini.
Florence	29.39	746.4	29.63	752.7	78.3	25.7	61	SW	.....	.....	4	.....	9	.....	.....	0.280	7.1	.....	Cav. F. Meucci.
Leghorn	29.54	750.3	29.62	752.4	75.9	24.4	77	WSW	5.6	2.5	.....	.....	4	W	.....	0.827	21.0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.16	715.2	29.64	752.9	70.9	21.6	69	SW	.....	.....	1	.....	10	.....	.....	0.315	8.0	.....	Prof. P. Serpieri.
Rome	29.58	751.2	29.74	755.5	74.7	23.7	73	S	9.4	4.2	.....	.....	10	.....	.....	0.091	2.3	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.56	750.9	29.75	755.7	84.0	28.9	71	SSW	.....	.....	6	.....	6	SW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.52	749.9	29.77	756.2	86.0	30.0	35	S	24.8	11.1	.....	.....	9	SW	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.54	750.4	29.73	755.2	84.7	29.3	64	S	.....	.....	4	.....	3	W	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.92	734.5	29.76	755.9	91.6	33.1	60	SW	7.4	3.3	.....	.....	3	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.52	749.8	29.77	756.1	97.5	36.4	25	SW	9.4	4.2	.....	.....	9	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.73	755.1	29.81	757.1	86.0	30.0	54	SW	.....	.....	6	.....	5	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.23	742.4	29.78	756.5	83.3	28.5	76	WSW	6.3	2.8	.....	.....	7	SW	.....	0.496	12.6	.....	Prof. F. Brioschi.
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Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.61	752.1	29.81	757.2	69.8	21.0	65	SSW	1.2	0.5	.....	.....	0	.....	.....	0	0	Fair	
Tokei (Yeddo) Observatory	29.76	755.9	29.82	757.4	78.1	25.6	81	SE	8.2	3.7	.....	.....	2s	.....	.....	0.010	0.25	Fair	I. Arai, Director.
Tokei (Yeddo) University	29.71	754.6	29.81	757.1	77.3	25.2	92	ESE	3	1.3	.....	.....	3s	.....	.....	0.06	1.5	Fair	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	62.0	16.7	69	N	15.4	6.9	.....	5cs	0	.....	.....	0.03	0.8	⅓ cloudy	L. Castillo, A. E.
Guadalajara	25.15	638.9	30.13	765.2	57.6	14.2	87	W	0.9	0.4	.....	0	6ks	.....	E	0.10	2.6	⅓ cloudy	Prof. L. Perez.
Guanajuato	23.75	603.3	29.90	759.6	61.7	16.5	86	Calm	0	0	.....	0	0	.....	.....	0.14	3.4	Very clear	Prof. V. Fernandez
Leon	24.50	622.6	30.06	763.7	61.5	16.4	84	S	0.9	0.4	.....	1c	0	NE	.....	0.18	4.5	.....	Prof. M. Leal.
Mexico	23.18	588.9	30.21	767.2	54.5	12.5	93	Calm	0	0	.....	0	10k	.....	.....	2.11	53.5	Covered	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	60.6	15.9	92	NW	0.9	0.4	.....	0	2k	.....	S	Inap.	Inap.	Clear	M. V. de Leon, M. E.
Puebla	23.41	594.6	30.11	764.7	51.4	10.8	88	N	4.5	2.0	.....	2ck	2s	.....	.....	0.38	9.6	Clear	Prof. B. Gonzalez.
Tlacotalpam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Luis Potosi	24.31	616.8	30.27	768.9	61.0	16.1	55	E	0.9	0.4	.....	0	10	.....	E	0	0	Covered	Prof. F. R. Bayly.
Vera-Cruz	29.99	761.7	30.02	762.4	78.8	26.0	84	WNW	2.0	0.9	.....	2c	4sk	.....	.....	0.14	3.6	⅓ cloudy	G. Barroeta, M. D.
Zacatecas	.....	.....	.....	.....	59.0	15.0	85	SE	1.8	0.8	.....	0	9	.....	SSE	0	0	Covered	Prof. J. Rossell.
Puebla, (Catholic Institute)	23.28	591.5	30.03	762.9	50.0	10.0	89	NE	1.3	0.6	.....	2	0	.....	.....	0.67	16.9	Clear	J. A. Bonilla, M. E.
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Spina, [M.M. D. D
Colima	28.42	721.8	30.05	763.3	77.9	25.5	84	E	0.9	0.4	.....	0	8	.....	N	0	0	Cloudy	M. V. de Leon, C. E.
San Juan E. Michapam	29.74	755.4	29.89	759.1	77.9	25.5	.....	N	1.8	0.8	.....	3ck	6cs	SW	NW	0	0	Cloudy	R. Banda, C. E.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Antonio Guerra y Guerra.
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Note.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.41	746.9	29.41	746.9	66.2	19.0	.....	ESE	.....	.....	4	.....	.....	.....	.....	0.354	9.0	.....	
Groningen	29.49	749.0	29.54	750.4	69.4	20.8	.....	S	.....	.....	2	.....	.....	.....	.....	0.496	12.6	.....	
Helder	29.49	749.1	29.49	749.1	65.1	18.4	.....	E	.....	.....	3	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.46	748.2	29.46	748.2	68.5	20.3	77	E	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.44	747.7	29.48	748.9	71.1	21.7	59	ESE	.....	.....	4	.....	5	.....	.....	0.020	0.5	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.79	756 7	29.85	758.1	64.8	18.2	48	NW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	
Brôno	29.77	756.2	29.81	757.2	54.0	12.2	87	SW	18	8	.....	.....	10	.....	.....	0.055	1.4	.....	
Christiania	29.71	754.7	29.85	758.3	71.2	21.8	47	SSE	7	3	.....	.....	0	.....	.....	0	0	.....	
Tromsô	29.37	746.1	29.42	747.2	48.2	9.0	73	W	11	5	.....	.....	10	.....	.....	0.370	9.4	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.93	760.2	30.12	765.0	72.3	22.4	88	W	3.8	1.7	.....	.....	6	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.3	29.98	761.5	77.5	25.3	41	WNW	11.2	5.0	.....	.....	4	WNW	.....	0.035	0.9	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.08	763.9	30.16	766.1	79.2	26.2	67	SW	4.3	1.9	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.7	30.03	762.7	68.9	20.5	84	SSW	13.7	6.1	.....	.....	9	.....	.....	0.201	5.1	.....	The Staff.
Ponta Delgada, (Azores)	30.10	764.4	30.16	766.1	79.5	26.4	81	W	8.7	3.9	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 20′, W. 16° 53′	.....	.....	30.16	766.1	79.7	26.5	.....	Calm	.....	.....	0	.....	5	.....	Calm	1	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	763.0	69.8	21.0	.....	WSW	.....	.....	1	.....	2	.....	WSW	1	.....	D. clouds	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.94	760.5	84.6	29.2	.....	SW	.....	.....	1	.....	4	.....	SW	2	SW	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.3	71.2	21.8	.....	W	.....	.....	0	.....	10	.....	E	0	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing, but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.45	747.9	29.85	758.2	70.2	21.2	42	ESE	9	4	.....	.....	1k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.53	750.1	29.94	760.4	66.0	18.9	49	W	2	1	.....	.....	3	.....	.....	.....	.....	.....	Astronomical Obs.
Dorpat	29.70	754.3	29.93	760.3	64.4	18.0	49	WNW	4	2	.....	.....	4k	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.83	757.6	29.84	758.0	59.7	15.4	70	W	18	8	.....	.....	1k	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.26	743.1	29.87	758.7	65.7	18.7	44	N	4	2	.....	.....	3k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.89	759.3	29.97	761.1	71.6	22.0	52	SSW	4	2	.....	.....	6kn	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.96	760.9	29.98	761.4	73.0	22.8	61	N	2	1	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.29	743.9	29.82	757.4	63.7	17.6	48	NNW	13	6	.....	.....	6ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.62	752 4	29.82	757 5	70.7	21.5	39	W	4	2	.....	.....	6	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.61	752.0	29.63	752 5	55.9	13.3	53	WNW	2	1	.....	.....	9k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.43	722.1	29.76	755.9	82.2	27.9	36	N	13	6	.....	.....	5cs	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.85	758.3	29.77	756.2	74.7	23.7	43	WSW	18	8	.....	.....	10ks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.34	745.1	29.60	751 7	61.3	16.3	59	N	4	2	.....	.....	8	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.63	727.2	29.54	750.4	63.3	17.4	87	SSE	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.43	747.5	29.65	753.1	88.7	31.5	27	NNE	13	6	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.13	714.6	29.72	755.0	83.5	28.6	60	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.38	746.3	29.89	759.1	68.5	20.3	50	NW	0	0	.....	.....	8	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.50	749.3	29.78	756.4	64.4	18.0	78	W	2	1	.....	.....	5	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.71	754.6	29.85	758.2	70.7	21.5	67	SE	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.64	752.8	29.74	755 4	83.1	28.4	57	SW	1.7	0.78	.....	.....	0	.....	.....	0	0	Clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.79	756.7	29.85	758.1	77.7	25.4	55	NW	3.4	1.50	.....	1	2	W	.....	0.102	2.6	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.4	.....	.....	66.6	19.2	58	SW	13.3	5.95	.....	.....	8	.....	.....	0	0	Cloudy	Domingo Martin y Perez
Madrid, Royal Observatory	27.70	703.6	29.81	757.2	80.6	27.0	34	W	14.2	6.33	.....	1	3	.....	.....	0	0	Clouds	The Staff.
Murcia, Met. Obs'y	29.69	754.1	29.83	757.7	93.4	34.1	39	SW	2.4	1.06	.....	2	6	E	.....	0	0	Cloudy	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.02	737.1	29.89	759.3	66.7	19.3	76	SW	9.3	4.17	.....	.....	9	.....	.....	0	0	Almost cov'd	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.88	758.9	29.94	760.5	78.8	26.0	85	ESE	4.0	1.8	.....	6ck;cs	1k	.....	.....	0.657	16.7	Fair	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.95	760.8	30.05	763.2	75.0	23.9	82	WSW	20.1	9.0	.....	0	9	.....	W	0	0	.....	
San Juan de Porto Rico, W. I.	29.97	761.3	30.07	763.6	80.2	26.8	98	SE	1.1	0.50	.....	7kn	5kn	E	E	0.433	11.00	Overcast	Capt. C. Pujazon, R. N., Dir. Leonardo de Tejeda, Ch'f Eng't.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer educed to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.60	751.8	29.64	752.8	59.4	15.2	.....	S	.....	.....	2	.....	5	.....	.....	0	0	.....	
Umea	29.72	754.9	29.77	756.2	66.9	19.4	51	NW	.....	.....	2	.....	7	.....	.....	0	0	.....	
Hernosand	29.76	756.0	29.82	757.3	69.4	20.8	40	W	.....	.....	2	.....	1	.....	.....	0	0	.....	
Stockholm	29.71	754.7	29.89	759.2	69.8	21 0	49	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	
Wisby	29.91	759.8	29.97	761.3	63.3	17.4	72	W	.....	.....	4	.....	5	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.80	756.8	29.87	758.7	72.0	22.2	41	WSW	9.2	4.1	.....	.....	0	.....	.....	0.002	0.06	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.29	718.5	29.68	753.8	66.9	19.4	58	SSW	.....	.....	6	.....	9	.....	.....	0.827	21.0	Covered.....	The Observatory.
Zurich	28.06	712.8	29.66	753.4	65.8	18.8	72	NW	.....	.....	1	.....	8	SW	NW	0.055	1.4	Covered.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —9.2 mm.; Thermometer, —1.6 cent.; Relative Humidity, +1 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.91	759.7	75.0	23.9	59	ENE	13	6.0	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Fao, (Persian Gulf)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Valona	.....	.....	29.91	759.6	87.1	30.6	.....	SW	.....	.....	1	.....	5	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.62	752.3	29.72	755.0	89.1	31.7	71	NW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.

Note.—The originals give the wind-force by the scale 0 to 7, (except Beirut by the scale 0 to 12, and Constantinople velocity in meters per second;) the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and, except Constantinople and Beirut, the amount by the scale 0 to 4. It is assumed, except for Constantinople and Beirut, that the barometer is reduced to sea-level.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.94	760.5	30.01	762.2	63.9	17.7	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.....	Hon. J. Ferguson.
Brockville, Ontario	29.65	753.1	29.94	760.5	70	21.1	.....	SW	5	2.2	.....	0	2s	.....	SW	0	0	Fair.....	W. R. Bigg.
*Chatham, N B	30.00	762.0	30.06	763.5	58	14.4	84	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear.....	G. A. Blair.
Charlottetown, P. E. Island	30.02	762.5	30.06	763.5	60	15.6	76	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear.....	H. J. Cundall, C. E.
Cornwall, Ontario	29.73	755.1	29.92	760.0	70.2	21.2	79	SW	.....	.....	3	0	0	.....	.....	0	0	Clear.....	James Smith, M. A.
Dalhousie, N. B	29.86	758.4	30.02	762.5	56.8	13.8	80	W	.....	.....	2	.....	.....	.....	.....	0	0	Clear.....	H. A. Johnson.
Esquimault, B. C	29.92	760.0	29.96	761 0	56.2	13.4	94	Calm	.....	.....	.....	10?	.....	.....	.....	0	0	Fine.....	W. H. Beyis.
*Father Point, Quebec	29.89	759.2	29.91	759.7	67	19.4	58	S	7	3.1	.....	5k	5s	N	N	0	0	Clear?.....	J. McWilliams.
Fredericton, N. B	30.05	763.3	30.11	764.8	61.0	16.1	83	S	4	1.8	.....	2cs;ck	0	.....	.....	0	0	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.29	744.0	30.12	765.0	52	11.1	93	W	5	2.2	.....	0	0	.....	.....	0	0	Fair.....	James Stewart.
Granton, Ontario	28.84	732.5	29.89	759 2	68	20.0	95	S	.....	.....	1	.....	10n	.....	.....	0	0	Clear.....	James Grant.
*Halifax, N. S	30.00	762.0	30.13	765.3	58	14.4	71	N	1	0.4	.....	0	0	.....	.....	0	0	Overcast....	F. Allison, M. A.
Hamilton, Ontario	29.56	750 8	29.92	760.0	74.3	23.5	75	SW	.....	.....	3	10ck	0	.....	.....	0	0	Clear.....	Geo. Dickson, M. A.
Heart's Content, N. F	30.04	763.0	30.06	763.5	47	8.3	85	NE	.....	.....	1	.....	10	.....	.....	0	0	Overcast....	E. Weedon.
*Kingston, Ontario	29.63	752.6	29.95	760.7	71	21.7	90	S	16	7.2	.....	5c	Sm'e	S	S	0	0	Foggy.....	S. Woods, M. A.
Little Glace Bay, N. S	30.08	764.0	30.12	765.0	67.0	19.4	.....	W	4	1.8	.....	0	0	.....	.....	0	0	Fair.....	C. H. Rigby.
*Montreal, Quebec	29.75	755.6	29.95	760.7	66	18.9	81	W	12	5.4	.....	5clc	5s	N	.....	0	0	Fair?.....	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.16	740 7	29.82	757.4	67	19.4	99	SE	14	6.3	.....	.....	10n	.....	SE	0.14	3.6	Cloudy.....	Rev. R. Mosley.
Peterboro, Ontario	30.19	766.8	29.91	759.7	71.0	21.1	78	S	.....	.....	1	.....	10k	.....	.....	0	0	Cloudy.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.27	743.4	29.93	760.2	73	22.8	85	S	11	4.9	.....	10ck	0	NW	.....	0	0	Fair?.....	H. Morgan.
Port Hastings, N. S	30.06	763.5	30.11	764.8	61.3	16.3	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine.....	Peter Grant.
Port Stanley, Ontario	29.30	744.2	29.92	760.0	73	22.8	89	SW	8	3.6	.....	.....	10n	.....	SW	Inap.	Inap.	Cloudy.....	M. Payne.
*Quebec, Quebec	29.68	753.9	29.99	761.7	63	17.2	83	Calm	.....	.....	0	2cs	2ks	.....	.....	0	0	Fair.....	Capt. Ashe, R. N.
*Rockliffe, Ontario	29.40	746.7	29.84	757.9	64	17.8	89	E	2	0.9	.....	.....	10s	.....	W	Inap.	Inap.	Light rain...	W. H. McIntyre.
St. Andrews, N. B	30.04	763.0	30.11	764.8	58	14.4	87	NW	.....	.....	.....	2c	2ks	.....	.....	0	0	Fair.....	Dr. Gove.
St. John, N. B	29.99	761.7	30.16	766.1	59	15.0	82	S	11	4.9	.....	7ck	0	.....	.....	0	0	Fair.....	G. Murdock, C. E.
*Saugeen, Ontario	29.13	739.9	29.81	757.2	71	21.7	84	S	12	5.4	.....	.....	10ks	.....	.....	0	0	Cloudy.....	K. Stewart.
Stayner, Ontario	29.10	739.1	29.85	758.2	64	17.8	94	SE	5	2.2	.....	.....	10n	.....	W	0.06	1.5	Light rain...	R. J. Cole.
Stratford, Ontario	28.66	728.0	29.89	759.2	68.8	20.4	94	SW	10	4.5	.....	0	10s	.....	.....	0	0	Overcast....	C. J. MacGregor, M. A.
*Sydney, C. B	30.10	764.5	30.13	765.3	63	17.2	69	SE	1	0.4	.....	2c	0	.....	.....	0	0	Clear.....	T. C. Hill.
*Toronto, Ontario	29.54	750.3	29.90	759.4	70	21.1	89	S	5	2.2	.....	5cs	5n	SW	SW	0	0	Cloudy.....	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	49.0	9.4	96	NE	.....	.....	.....	5c	5s	.....	.....	0.02	0.5	Cloudy.....	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and these telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Wind. Velocity.		Wind. Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0-10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Albany, New York	29.86	758.4	30.08	764.0	65	18.3	63	S	8	3.6	.....	1ck	0	W	.....	0	0	Clear	
Alpena, Michigan	29.17	740.9	29.78	756.4	68	20.0	90	W	4	1.8	...	.....	10s	... .	W	0.03	0.8	Cloudy	
Atlantic City, New Jersey	30.12	765.0	30.14	765.5	66	18.9	84	N	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Augusta, Georgia	29.98	761.5	30.16	766.1	73	22.8	81	E	4	1.8	.....	Haze	0	.....	.....	0	0	Clear	
Baltimore, Maryland	30.11	764.8	30.16	766.1	66	18.9	79	E	4	1.8	.....	Haze	Sm'e	Calm	Calm	0	0	Smoky	
Barnegat, New Jersey	30.13	765.3	30.16	766.1	66	18.9	79	N	6	2.7	.....	2k	0	NE	.....	0	0	Clear	
Bismarck, Dakota	28.41	721.6	30.27	768.8	56	13.3	81	N	7	3.1	.....	.....	10s	.....	N	0.23	5.8	Cloudy	
Boerne, Texas	28.60	726.4	.....	.....	78	25.6	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.19	690 6	30.15	765.8	57	13.9	62	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.00	762.0	30.15	765.8	67	19.4	60	SW	5	2.2	.....	1cs	Haze	Calm	W	0	0	Hazy	
Brackettville, Texas	28.92	734.6	29.91	759.7	80	26.7	82	Calm	0	0	.....	0	8s	.....	S	0	0	Cloudy	
Breckenridge, Minnesota	29.08	738.6	30.07	763.8	58	14.4	88	N	10	4.5	.....	.....	10n	.....	Calm	0.02	0.5	Light rain	
Brownsville, Texas	29.95	760.7	30.02	762.5	78	25.6	90	Calm	0	0	.....	5ck	0	Calm	.....	0.23	5.8	Fair	
Buffalo, New York	29.26	743.2	29.92	760.0	72	22.2	62	S	12	5.4	.....	2ck	1s	W	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	54	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.78	756.4	30.03	762.7	66	18.9	63	S	16	7.2	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.60	751.8	29.98	761.5	77	25.0	77	S	6	2 7	.....	5ck	0	NW	.....	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	84	Calm	.....	.....	0	0	2s	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.29	642.4	30.08	764.0	66	18.9	79	NW	.....	.....	1	2ck	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.85	682.0	30.34	770.6	73	22 8	81	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Campo, California	27.45	697.2	30.02	762.5	49	9.4	92	Calm	.....	.....	0	.....	Fog	.....	Calm	0	0	Foggy	
Cape Hatteras, N. Carolina	30.08	764.0	30.09	764.3	71	21.7	90	NE	17	7.6	.....	.....	10n	.....	NE	Inap.	Inap.	Light rain	
Cape Henry, Virginia	30.12	765.0	30.15	765.8	70	21.1	85	NW	16	7.2	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.08	764.0	30.10	764.5	71	21.7	85	N	20	8.9	.....	8k	0	E	.....	0	0	Cloudy	
Cape May, New Jersey	30.13	765.3	30.16	766.1	65	18.3	73	NE	7	3.1	.....	2k	0	NE	.....	0	0	Fair	
Castroville, Texas	29.25	742.9	29.93	760.2	76	24.4	86	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.11	764.8	30.18	766.6	72	22.2	71	NE	12	5.4	.....	0	0	.....	.....	0.07	1.8	Clear	
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	61	16.1	94	N	12	5.4	.....	.....	10s	... .	N	0	0	Threatening	
Chicago, Illinois	29.15	740.4	29.80	756.9	73	22.8	85	SW	6	2.7	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Cincinnati Ohio	29.34	745.2	29.97	761.2	73	22.8	72	SE	4	1.8	.....	5c	4s	W	NW	0	0	Cloudy	
Cleveland, Ohio	29.25	742.9	29.94	760.5	71	21.7	71	S	17	7.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Coleman City, Texas	28.27	718.0	29.85	758.2	79	26.1	62	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	
Columbus, Ohio	29.16	740.7	29.96	761.0	70	21.1	71	S	4	1.8	.....	.....	10ks	.....	S	Inap.	Inap.	Cloudy	
Concho, Texas	28.15	715.0	29.78	756.4	70	21.1	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.58	751.3	30.02	762.5	78	25.6	86	E	2	0.9	.....	2cs	0	Calm	.....	0	0	Clear	
Davenport, Iowa	29.27	743.4	29.87	758.7	78	25.6	86	W	1	0.4	.....	1ck	0	NW	.....	0	0	Clear	
Denison, Texas	29.24	742.7	30.00	762.0	78	25.6	82	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.95	633.7	30.17	766.3	70	21.1	61	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.03	737.3	29.85	758.2	80	26.7	82	Calm	0	0	.....	5c	Haze	W	Calm	0	0	Hazy	
Detroit, Michigan	29.22	742.2	29 86	758.4	72	22.2	76	SW	8	3.6	.....	0	5s	.....	W	0.07	1.8	Fair	
Dodge City, Kansas	27.42	696.5	29.60	751.8	73	22.8	63	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.20	741.7	29.85	758.2	76	24.4	86	N	5	2.2	.....	.....	10ks	.....	N	0	0	Cloudy	
Duluth, Minnesota	29.30	744.2	29.96	761.0	65	18.3	73	Calm	0	0	.....	0	2s	.....	Calm	Inap.	Inap.	Fair	
Eagle Pass, Texas	29.28	743.7	29.99	761.7	78	25.6	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	30.08	764.0	30.14	765.5	62	16.7	72	S	8	3.6	.....	8ck	0	SW	.....	0	0	Fair	
Edinburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
El Paso, Texas	.....	.....	.....	.....	79	26.1	73	Calm	0	0	.....	0	0	.....	.....	0.13	3.3	Clear	
Erie, Pennsylvania	29.25	742.9	29.93	760 2	74	23.3	63	S	13	5.8	.....	2ck	2s	W	.....	0	0	Fair	
Escanaba, Michigan	29.21	741.9	29.83	757.7	69	20.6	80	N	10	4.5	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Florence, Arizona	.....	.....	.....	.....	75	23 9	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.64	651.2	29.70	754.4	66	18.9	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort Davis, Texas	25.32	643.1	30.28	769.1	68	20.0	79	NW	4	1.8	.....	2c	0	SE	.....	0.42	10.7	Fair	
Fort Gibson, Indian Ter	29.48	748.8	30.00	762.0	80	26.7	78	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Fort Griffin, Texas	28.77	730 7	29.99	761.7	75	23.9	68	W	4	1.8	.....	2cs	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.84	707.1	29.68	753.9	75	23.9	72	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.82	732.0	29.88	758.9	76	24.4	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.31	719.1	29.81	757.2	76	24.4	77	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.95	760 7	29.99	761.7	83	28.3	87	E	5	2.2	.....	0	5ks	.....	E	Inap.	Inap.	Fair	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.21	741.9	29.82	757.4	73	22.8	85	SW	10	4.5	.....	.....	10s	.....	Calm	0.61	15.5	Cloudy	
Indianapolis, Indiana	29.19	741.4	29.93	760.2	72	22.2	71	S	5	2.2	.....	0	9s	.....	Calm	0	0	Cloudy	
Indianola, Texas	29.99	761.7	30.02	762.5	82	27.8	87	NW	9	4.0	.....	0	1s	.....	Calm	0	0	Clear	
Jacksboro, Texas	28.90	734.0	29.98	761.5	78	25.6	69	S	2	0.9	.....	6	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.04	763.0	30.07	763.8	80	26.7	74	NE	8	3.6	.....	5k	0	NE	.....	0	0	Fair	
Keokuk, Iowa	29.27	743.4	29.83	757.7	83	28.3	75	W	6	2.7	.....	1c	0	Calm	.....	0	0	Clear	
Key West, Florida	29.92	760.0	29.95	760.7	83	28.3	71	SE	6	2.7	.....	2cs	2ks	Calm	SE	0.03	0.8	Fair	
Kittyhawk, North Carolina	30.08	764.0	30.10	764.5	69	20.6	100	NE	27	12.1	.....	.....	10n	.....	NE	0.11	2.8	Light rain	
Knoxville, Tennessee	29.17	740.9	30.14	765.5	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
La Crosse, Wisconsin	29.16	740.7	29.85	758.2	72	22.2	90	N	2	0.9	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.15	664.2	30.30	769.6	68	20.0	89	Calm	0	0	.....	0	8s	.....	Calm	0.12	3.0	Fair	
Laredo, Texas	29.56	750.8	29.89	759.2	80	26.7	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	25.08	637.0	30 35	770.9	49	9.4	85	N	4	1.8	.....	.....	Fog	.....	Calm	0.83	21.1	Foggy	
Leavenworth, Kansas	29.09	738.9	29.88	758.9	79	26.1	78	S	2	0.9	.....	2ck	0	NW	... .	0	0	Fair	
Los Angeles, California	29.68	753.9	30.02	762.5	57	13.9	81	Calm	0	0	.....	0	0	... ...	.....	0	0	Clear	
Louisville, Kentucky	29.47	748.5	30.01	762.2	71	21.7	75	SW	4	1.8	.....	8c;ck	Sm'e	NW	Calm	0	0	Fair	
Lynchburg, Virginia	29.48	748.8	30.15	765.8	63	17.2	88	E	2	0.9	.....	.....	Fog	.....	.....	0	0	Foggy	
Marquette, Michigan	29.19	741.4	29.86	758.4	65	18.3	89	NW	8	3.6	.....	.....	10s	.....	NW	0	0	Cloudy	
Mason, Texas	28.40	721.3	30.10	764.5	73	22.8	85	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.75	755.6	30.05	763.3	80	26.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Milwaukee, Wisconsin	29.13	739.9	29.81	757.2	72	22.2	95	N	6	2.7	.....	.....	10s	.....	.....	0.07	1.8	Cloudy	
Mobile, Alabama	30.05	763.3	30.09	764.3	74	23.3	90	SE	4	1.8	.....	0	0	.....	.....	0.03	0.8	Clear	
Montgomery, Alabama	29.86	758.4	30.08	764.0	75	23.9	76	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Clear	
Morgantown, West Virginia	29.02	737.1	30.04	763.0	69	20.6	65	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Mt. Washington, N. H.	23.99	609.3	30.35	770.9	48	8.9	92	NW	7	3.1	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.55	750.6	30.07	763.8	73	22.8	76	NE	2	0.9	.....	0	1s	.....	Calm	0	0	Clear	
New Haven, Connecticut	30.05	763.3	30.16	766.1	67	19.4	74	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
New London, Connecticut	30.13	765.3	30.18	766.6	63	17.2	78	Calm	0	0	.....	0	Fog	.....	N	0	0	Clear	
New Orleans, Louisiana	29.99	761.7	30.04	763.0	84	28.9	68	Calm	0	0	.....	2k	Haze	Calm	Calm	0	0	Fair	
Newport, Rhode Island	30.12	765.0	30.17	766.3	63	17.2	83	Calm	0	0	.....	2k	0	SE	.....	0	0	Clear	
New York, New York	29.99	761.7	30.17	766.3	66	18.9	64	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Norfolk, Virginia	30.09	764.3	30.14	765.5	71	21.7	80	N	5	2.2	.....	10cs	0	N	.....	Inap.	Inap.	Cloudy	
North Platte, Nebraska	27.11	688.6	29.55	750.6	72	22.2	80	NE	14	6.3	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	29.99	761.7	30.03	762.7	55	12.8	93	SE	1	0.4	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Omaha, Nebraska	28.79	731.3	29.79	756.7	80	26.7	74	S	2	0 9	.....	2c	0	SW	.....	0	0	Clear	
Oswego, New York	29.68	753.9	29.99	761.7	69	20.6	75	S	10	4.5	.....	2c	Haze	W	Calm	0	0	Fair	
Pembina, Dakota	29.30	744.2	30.13	765.3	48	8.9	93	NW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.12	765.0	30.17	766.3	65	18.3	78	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Fair	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.82	732.0	.....	.....	79	26.1	87	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.17	461.5	30.38	771.6	41	5.0	49	SW	4	1.8	.....	.....	10s	.....	SW	0	0	Cloudy	
Pioche, Nevada	24.23	615.4	30.00	762.0	58	14.4	64	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.24	742.7	30.02	762.5	68	20.0	70	S	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Port Huron, Michigan	29.20	741.7	29.83	757.7	68	20.0	84	S	8	3.6	.....	.....	10n	.....	Calm	0.08	2.0	Light rain	
Portland, Maine	30.06	763.5	30.10	764.5	62	16.7	77	S	8	3.6	.....	1k	Haze	Calm	.....	0	0	Clear	
Portland, Oregon	29.99	761.7	30.10	764.5	60	15.6	94	S	2	0.9	.....	.....	Fog	.....	SE	0	0	Foggy	
Prescott, Arizona	24.90	632.4	30.26	768.6	57	13.9	87	Calm	0	0	.....	0	0	.....	.....	Inap	Inap.	Clear	
Pilot Point, Texas	29.26	743.2	30.05	763.3	80	26.7	78	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	29.98	761.5	30.00	762.0	78	25.6	86	NE	8	3.6	.....	2cs	5s	Calm	NE	1.10	27.9	Fair	
Red Bluff, California	29.68	753.9	30.03	762.7	60	15.6	55	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Rochester, New York	29.36	745.7	29.94	760.5	72	22.2	62	SW	10	4.5	.....	1c	H	NW	Calm	0	0	Clear	
Roseburg, Oregon	29.52	749.8	30.08	764.0	59	15.0	88	NW	1	0.4	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
Sacramento, California	29.95	760.7	30.08	764.0	59	15.0	70	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.40	746.7	29.94	760.5	79	26.1	74	S	9	4.0	.....	5ck	0	Calm	.....	Inap.	Inap	Fair	
St. Marks, Florida	30.07	763.8	30.09	764.3	73	22.8	85	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.09	738.9	29.88	758.9	71	21.7	71	N	8	3.6	.....	8c	0	NW	.....	0	0	Fair	
Salt Lake City, Utah	25.78	654.8	30.11	764.8	60	15.6	71	SE	8	3.6	.....	0	0	.....	.....	0.03	0.8	Clear	
San Antonio, Texas	29.33	745.0	29.89	759.2	77	25.0	91	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.98	761.5	30.05	763.3	66	18.9	84	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.30	744.2	29.93	760.2	73	22.8	72	SW	12	5.4	.....	.....	10ks	.....	W	0	0	Cloudy	
Sandy Hook, New Jersey	30.18	765.3	30.16	766.1	68	20.0	65	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	30.00	762.0	30.07	763.8	55	12.8	90	SW	6	2.7	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.45	595.6	29.99	761.7	59	15.0	76	E	1	0.4	.....	1c	1s	Calm	Calm	1.11	28.2	Clear	
Savannah, Georgia	30.05	763.3	30.14	765.5	76	24.4	86	E	8	3.6	.....	1k	0	Calm	.....	0	0	Clear	
Shreveport, Louisiana	29.82	757.4	30.03	762.7	78	25.6	76	E	1	0.4	.....	10cs	0	N	.....	0.04	1.0	Cloudy	
Silver City, New Mexico	24.37	619.0	.....	.....	62	16.7	94	NW	2	0.9	.....	2cs	2s	Calm	Calm	2.02	51.3	Fair	
Smithville, North Carolina	30.12	765.0	30.16	766.1	67	19.4	84	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Springfield, Massachusetts	29.96	761.0	30.09	764.3	62	16.7	77	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Stockton, Texas	27.02	686.3	30.02	762.5	66	18.9	36	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	30.09	764.3	30.15	765.8	63	17.2	83	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.24	742.7	29.87	758.7	74	23.3	68	S	11	4.9	.....	0	8ks	.....	SW	0	0	Cloudy	
Tucson, Arizona	27.34	694.4	29.89	759.2	73	22.8	76	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Tybee Island, Georgia	30.11	764.8	30.14	765.5	76	24.4	82	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.63	752.6	.....	.....	62	16.7	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	46	7.8	100	E	.....	.....	1	.....	10n	.....	E	0.13	3.3	Raining	
Uvalde, Texas	29.12	739.6	29.91	759.7	77	25.0	91	NW	1	0.4	.....	0	2s	.....	E	0.37	9.4	Fair	
Vicksburg, Mississippi	29.84	757.9	30.09	764.3	76	24.4	82	Calm	0	0	.....	0	2s	.....	SW	0	0	Fair	
Virginia City, Montana	24.49	622.0	29.97	761.2	59	15.0	82	SE	6	2.7	.....	.....	Fog	.....	Calm	Inap.	Inap.	Foggy	
Visalia, California	29.68	753.9	30.05	763.3	56	13.3	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.06	763.5	30.18	766.6	66	18.9	84	Calm	0	0	.....	0	Fog	.....	E	0	0	Foggy	
Wickenburg, Arizona	.....	.....	.....	.....	71	21.7	90	W	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	30.06	763.5	30.14	765.5	66	18.9	78	N	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.73	653.5	30.09	764.3	47	8.3	41	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.13	765.3	30.18	766.6	63	17.2	72	NE	2	0.9	.....	0	2ks	.....	.....	0	0	Clear	
Yankton, Dakota	28.69	728.7	29.91	759.7	73	22.8	90	N	12	5.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Yuma, Arizona	29.77	756.1	29.93	760.2	74	23.3	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.73	755.1	29.78	756.4	51.0	10.6	90	W	22	9.8	.....	4c	2s	NW	W	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.92	760.0	29.94	760.5	79	26.1	86	SE	7.2	3.2	.....	8c	4ks	Calm	SE	0.49	12.4	Cloudy	Chas. Hasselbrink.
Santiago de Cuba, W. I.	29.98	761.5	30.00	762.0	82	27.8	86	Calm	0	0	.....	8k	8k	.....	SE	0	0	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	84	28.9	79	E	3	1.3	.....	2c	2k	NE	.....	Blank	Blank	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	83	28.3	87	SE	13	5.8	.....	2c	2ks	Calm	SE	0	0	.....	James Gath.
Navassa, W. I.	29.94	760.5	30.02	762.5	83.5	28.6	.....	E	12.1	5.4	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.03	762.7	30.03	762.7	81	27.2	87	SE	.....	.....	2	4c	5k	Calm	.....	0	0	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.31	642.9	.....	.....	67.5	19.7	80	Calm	0	0	.....	0	2ks	.....	.....	0.17	4.3	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,766 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,176.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.56 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.18	766.6	80	26.7	80	26.7	91	N	1	0.4	.....	.....	2	.....	SE	0	0	.....	.....	Fair	
Navy Yard, Portsmouth, N.H	30.09‡	764.3‡	.....	.....	65	18.3	73	SW	4	1.8	.....	.....	5	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.84*	757.9*	78.4	25.8	78	25.6	82	SSE	.....	.....	1	.....	4ks	.....	SSE	Slight	Slight	.....	.....	Lightning	
Adams. S. 19° 50′, W. 177° 10′	30.15	765.8	73	22.8	71	21.7	100	ESE	.....	.....	3	.....	1	.....	SE	.....	.....	Mod'ate	S;E	Rainy	
Alliance, Villafranca, France	29.59‡	751.6‡	.....	.....	82	27.8	33	WSW	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ashuelot. Yokohoma, Japan	29.93	760.2	79	26.1	78	25.6	100	SSE	.....	.....	1	.....	8	.....	Calm	.....	.....	Smooth	.....	Cloudy	
Alaska, S. 40° 02′, W. 56° 36′	30.45	773.4	54	12.2	42	5.6	58	N	.....	.....	1	.....	5	.....	N	0	0	Long	N	D. clouds	
Canonicus, New Orleans, La.	30.06	763.5	56	13.3	81	27.2	87	SE	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.	30.12‡	765.0‡	.....	.....	65	18.3	68	ESE	4	1.8	.....	.....	8	.....	ESE	0	0	.....	.....	Light fog	
Constitution, Havre, France	29.45‡	748.0‡	.....	.....	63	17.2	94	W	.....	.....	3	.....	8	.....	WNW	.....	.....	.....	.....	Showery	
Despatch, Constantinople, Turkey	29.95‡	760.7‡	.....	.....	74	23.3	68	NE	.....	.....	3	.....	2	.....	NE	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va.	30.23	767.8	73	22.8	72	22.2	90	NNW	7.2	3.2	.....	.....	10	.....	N	0	0	.....	.....	Cloudy	
Gettysburg Toulon, France	29.72‡	754.9‡	.....	.....	76	24.4	100	SW	.....	.....	5	.....	5	.....	NE	1.	25.	.....	.....	Fair	
Hartford, Rio de Janeiro, Brazil	30.14	765.5	.....	.....	67	19.4	74	E	6.0	2.7	.....	.....	8	.....	.....	0	0	.....	.....	Foggy	
Marion, Port Mahon, Minorca Balearic I'ds,	29.84	757.9	79	26.1	79	26.1	70	ESE	.....	.....	2	.....	8	.....	S	0	0	Smooth	.....	Fair	
Michigan, Chicago, Illinois	29.40	746.7	75	23.9	74	23.3	95	SW	.....	.....	1	.....	10	.....	SW	.....	.....	.....	.....	Cloudy	
Monocacy. Yokohama, Japan	29.81‡	757.2‡	.....	.....	80	26.7	74	SSE	.....	.....	1	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C.	30.32	770.1	76	24.4	75	23.9	81	NE	11	4.9	.....	.....	2	.....	N	0.1	3.	.....	.....	Clear	
Onward, Callao, Peru	30.08†	764.0†	.....	.....	60	15.6	88	NNW	.....	.....	1	.....	10	.....	.....	.....	.....	Long	W	Misty	
Passaic, Washington, D. C.	.....	.....	.....	.....	65	18.3	100	W	.....	.....	1	.....	2	.....	NE	0	0	.....	.....	Clear	
Palos, Tientsin, China	29.93	760.2	75	23.9	71	21.7	57	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Plymouth. New York, N. Y.	30.36	771.1	66	18.9	64	17.8	83	NNE	.....	.....	1	.....	2	.....	NNE	.....	.....	.....	.....	Misty	
Ranger. Hong-Kong, China	29.95	760.7	85	29.4	85	29.4	88	SW	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Rio Bravo, Brownsville, Texas	29.96	761.0	79	26.1	79	26.1	95	N	.....	.....	.....	.....	2	.....	N	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md.	30.10‡?	764.5‡?	.....	.....	72	22.2	71	E	.....	.....	0–1	.....	8	....	SE	0	0	.....	.....	Fair	
St. Louis, League Island, Pa	30.09	764.3	66	18.9	65	18.3	84	ENE	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Foggy	
Supply, Havre, France	29.52	749.8	66	18.9	65	18.3	89	NW	.....	.....	2	.....	8	.....	.....	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass.	30.15‡	765.8‡	.....	.....	64	17.8	68	W	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Trenton, Cherbourg, France	29.44‡	747.8‡	.....	.....	67	19.4	79	NW	.....	.....	4	.....	9	.....	N;W	0.6	15.	.....	.....	Misty	
Tuscarora. N 20° 38′, W. 106° 39′	29.76	755 9	82	27.8	82	27.8	83	N	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair	
Vandalia. Villafranca, France	29.59‡	751.6‡	.....	.....	77	25.0	59	SW	.....	.....	1–3	.....	2	.....	SW	.....	.....	.....	.....	Squally	
Wabash, Boston, Mass.	30.14‡	765.5‡	.....	.....	70	21.1	90	W	2	0.9	.....	.....	0	.....	.....	0	0	.....	.....	Clear	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China, N. 37° 40′, W. 123° 07′		30.16*	766.1*	58	14.4	100	NW			2		1		NW	0	Light	NW	Hazy	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 22° 21′, E. 115° 08′		29.85†	758.2†	84	28.9	91	SW	6	2.7						0	Smooth		Lightning	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Race Rocks, B. C.		29.35†	745.5†	57	13.9	37	S			3		3		SE	Light			D. clouds	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 48° 49′, W. 33° 26′		29.67*	753.6*	60	15.6	88	NW			5				NW		Slight	W	Showery	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, N. 51° 19′, W. 10° 18′		29.65*	753.1*	60	15.6	94	NE			4				NE	0	Mod'ate	NE	D. clouds	Capt. B. Gleadell.
S. S. Germanic																			Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 29° 40′, E. 130° 12′		29.77*	756.1*	81	27.2	87	Var.			3		ks		SW		Smooth	SW	Misty	Capt. L. Myer.
S. S. Gaelic, N. 38° 60′, W. 156° 50′		30.17†	766.5†	70	21.1	110	Var.			3		cs		Var.	0	Heavy	W	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 48° 32′, W. 171° 33′		29.55	750.6	52	11.1	93	NNW			5		0				3	W	Blue sky	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 49° 30′, W. 23° 13′		29.55	750.6	61	16.1	??	S			4		10		S	2 hours	Mod'ate	SW	Raining	Capt. T. H. Lamke.
S. S. Braunschweig, N. 46° 13′ W. 48° 44′		29.89	759.2	56	13.3	87	NNW			4		8		NW	0	3	NNW		Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 51° 21′, W. 24° 50′		29.47*	748.5*	61	16.1	94				3		10		NNE	Heavy	Mod'ate	S	Cloudy	Captain Sargent.
S. S. Ohio. N. 40° 08′ W. 66° 21′		30.10	764.5	69	20.6	85	ENE			4		7?		ENE	0	Mod'ate	ENE	Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.54†	750.3†	66	18.9	100	ENE			2		7		SE	0			Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 68.3 W. coast of Greenland		29.91*	759.7*	37.8	3.2		ESE			3		10s						Light rain	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 25, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum't'l error and temper'ture. Inches.	Barometer. Corrected for instrum't'l error and temper'ture. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.96	761.0	86.4	30.2	64	NW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.86	758.5	85.3	29.6	57	WNW	.....	.....	6	.....	4	.....	.....	0	0	Cloudy	Tourliiere.
La Calle	.....	.....	29.92	760.0	87.6	30.9	64	NE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	29.93	760.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	29.98	761.5	87.8	31.0	.....	NE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Gau.
Saida	.....	.....	30.06	763.5	101.3	38.5	48	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	29.94	760.4	86.4	30.2	.....	W	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.07	763.7	87.6	30.9	33	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Brugniaux.
Laghouat	.....	.....	30.05	763.2	91.8	33.2	31	N	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	29.92	759.9	102.2	39.0	25	N	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 893? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.08	738.6	29.60	751.8	76.3	24.6	55	NE	.....	.....	2	.....	5	.....	.....	1.508	38.3	Thunder-storm	Prof. Ivan Stozi.
Cracow, I. R. Observatory	28.92	734.5	29.66	753.3	68.0	20.0	84	NE	.....	.....	1	.....	10	.....	.....	0.193	4.9	.....	Dr. Wierzbiski
Eperies	28.82	732.1	29.67	753.7	64.4	18.0	93	Calm	.....	.....	0	.....	10n	.....	.....	0.329	8.35	.....	Julius Mikolik.
Gratz	28.43	722.1	29.64	752.8	62.8	17.1	93	E	.....	.....	2	.....	10	.....	.....	0.370	9.40	.....	Andreas Rospini.
Hermannstadt	28.30	718.9	29.67	753.6	68.0	20.0	70	SE	.....	.....	4	.....	10	.....	.....	0.484	12.30	Raining	Prof. Reissenberg
Kremsmünster	28.39	721.1	29.69	754.1	64.0	17.8	72	W	.....	.....	2	.....	7k	.....	.....	0.055	1.4	.....	Prof. C. Wagner
Lemberg	28.75	730.2	29.70	754.4	66.0	18.9	77	SE	.....	.....	4	.....	9	.....	.....	0.571	14.5	.....	Dr. T. Stanecki.
Pola	29.53	750.1	29.64	752.8	79.5	26.4	55	W	.....	.....	1	.....	7ck;s	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.28	743.7	29.73	755.2	65.3	18.5	93	E	.....	.....	3	.....	10	.....	.....	1.307	33.2	Rainy	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.56	750.9	29.67	753.5	78.8	26.0	55	W	.....	.....	1	.....	6	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.02	737.0	29.71	754.6	64.4	18.0	73	W	.....	.....	2	.....	8	.....	.....	0.992	25.2	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.18	715.7	29.64	752.9	62.4	16.9	73	WNW	.....	.....	2	.....	8	.....	.....	0.197	5.0	.....	Prof. M. Passau.
Brussels	29.37	746.1	29.57	751.0	64.6	18.1	76	SW	.....	.....	4	.....	10	.....	SW	0.035	0.90	.....	Royal Observatory
Furnes	29.55	750.5	29.57	751.1	64.6	18.1	87	WSW	.....	.....	3	.....	8	.....	.....	0.114	2.9	Light rain	M. E. de Cae.
Maeseyck	29.48	748.7	29.60	751.9	67.6	19.8	72	SW	.....	.....	4	.....	9	.....	.....	0.476	12.1	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the cooperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.43	747.5	29.52	749.8	58.3	14.6	.....	E	8	3.6	.....	.....	.....	.....	.....	0.015	0.38	Foggy.....	W. Boswell.
Ardrossan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	George Carrick.
Armagh, Observatory	.....	.....	29.46	748.3	63.9	17.7	.....	WSW	3	1.3	.....	.....	.....	.....	.....	.....	.....	.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.50	749.3	62.3	16.8	.....	WNW	5	2.2	.....	.....	8	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.26	743.2	29.45	748.0	67.9	19.9	.....	SSE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.65	16.5	.....	J. McLandsborough.
Bridgetown, (Barbados)	29.93	760.2	29.96	761.0	83	28.3	.....	NE	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.49	749.0	67.0	19.4	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. Todd. [H. C.
Cardington	.....	.....	29.50	749.3	69.0	20.6	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.58	746.2	29.50	749.3	65.7	18.7	.....	Calm	.....	.....	0	.....	9	.....	.....	.....	.....	Raining.....	Lt. W. G. Morris, R. E.
Dartmoor	28.06	712.7	29.52	749.8	60.2	15.7	.....	W	.....	.....	2	.....	9	.....	.....	.....	.....	Fine.....	Alexander Watt.
Donaghadee	29.43	747.5	29.46	748.3	59	15.0	.....	SW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	J. Mac Gowan.
Dover	29.50	749.3	29.52	749.8	66	18.9	.....	ESE	.....	.....	2	.....	7	.....	.....	.....	.....	Showery.....	J. Costello.
Eccles, (near Manchester)	.....	.....	29.48	748.8	61.8	16.6	.....	NW	2.6	1.2	.....	.....	10	.....	.....	.....	.....	Overcast.....	Thomas Mackereth.
Falmouth, Observatory	29.33	745.0	29.56	750.8	65.8	18.8	.....	S	.....	.....	2	.....	7	.....	.....	.....	.....	Overcast.....	The Staff.
Fort Napier, (Natal)	27.85	707.4	30.17	766.3	55.0	12.8	.....	S	.....	.....	4	.....	6	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.70	754.4	29.93	760.2	76	24.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	Raining.....	
Galway, Queen's College	.....	.....	29.39	746.5	64	17.8	.....	S	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.85	758.2	29.90	759.4	76.3	24.6	.....	NE	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.10	739.1	29.31	744.5	61.6	16.4	.....	ENE	.....	.....	5	.....	10	.....	.....	.....	.....	Raining.....	D. G. Maclean.
Great Yarmouth	29.47	748.5	29.47	748.5	63	17.2	.....	Calm	.....	.....	0	.....	7	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.34	745.2	29.51	749.5	67.0	19.4	.....	WSW	.....	.....	1	.....	9	.....	.....	.....	.....	Nearly overcast.	The Staff, for G. B. Airy.
Guernsey	29.37	746.0	29.50	751.6	65.5	18.6	.....	SW	.....	.....	2	.....	4	.....	.....	Blank	Blank	D. clouds.....	Dr. S. E. Hoskins, F. R. S.
Helston	.....	.....	29.62	752.3	68	20.0	.....	S	.....	.....	2	.....	2c	.....	.....	0	0	Fine.....	M. P. Moyle.
Holyhead	29.46	748.3	29.51	749.5	66	18.9	.....	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.34	745.2	29.63	752.6	65.9	18.8	.....	WSW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	J. Fisher.
Kew, Observatory	.....	.....	29.51	749.5	66.2	19.0	.....	W	5	2.2	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.47	748.5	29.50	749.3	62	16.7	.....	ESE	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	George Mitchell.
Leicester, Museum	.....	.....	29.50	749.3	63.4	17.4	.....	NW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	Wm. J. Harrison, F. G. S.
Malta, (Mediterranean)	29.80	756.9	29.87	758.7	87.6	30.9	.....	SE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.40	746.7	29.47	748.5	71	21.7	.....	NE	.....	.....	2	.....	2	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.87	758.7	77.5	25.3	.....	SW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	C. S. Duncombe.
Nottingham, Observatory	29.32	744.7	29.51	749.5	68.7	20.4	.....	SW	.....	.....	1	.....	10ks;k	.....	SW	0.316	8.02	Overcast.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.99	736.3	29.49	749.0	67.0	19.4	.....	W	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds..	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.52	749.8	66	18.9	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	H. E. Bellamy.
Plymouth	29.48	748.8	29.55	750.6	65.5	18.6	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	D clouds.....	John Merrifield.
Roche's Point	29.45	748.0	29.49	749.0	65	18.3	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	W. Kennedy.
Saint Ann's Head	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys	.....	.....	29.58	751.3	61.2	16.2	.....	SE	25	11.2	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey	.....	.....	29.74	755.4	60.5	32.5	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.24	742.7	29.51	749.5	67.7	19.8	.....	SSW	.....	.....	3	.....	7	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.44	747.8	29.46	748.3	63.0	17.2	83	Calm	.....	.....	0	.....	10	.....	.....	0	0	Overcast	C. Edith Redford.
Stonyhurst, Observatory	29.11	739 4	29.51	749.5	61.7	16.5	.....	SSW	.....	.....	2	.....	10	.....	.....	.....	.....	Overcast.....	Rev. S. J. Perry.
Storeoway, Lews C., (Hebr.)	29.40	746.7	29.44	747.8	66	18.9	.....	SSE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S.
Thurso	.....	.....	29.54	750.3	62	16.7	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.57	751.1	70	21.1	.....	S	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.42	747.3	62.5	16.9	.....	SSE	21	9.4	.....	.....	10	.....	.....	Blank	Blank	Misty.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.94	760.5	62	16.7	82	NW	.....	.....	3	.....	7k	.....	.....	0	0	.....	Francis Abbott, F. R. A. S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.95	760.7	30.14	765.6	73.2	22.9	58	ESE	25.5	11.4	.....	3	3	W	E	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.18	766.6	30.27	768.8	51.4	10.8	83	NE	4	1.8	.....	.....	0	.....	.....	0	0	Heavy dew..	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway. Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, N. Arn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 44° 0', W. 58° 25'	2	.....	D. clouds.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith. N. 49° 20', W. 8° 40'	2	Conf'd	D. clouds....	Capt. D. W. A. Quaile
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex Simpson. [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	68.0	20.0	86	SE	.....	.....	1	2c	.....	.....	.....	Inap.	Inap.	.....	Mr. Ansart.
San José	26.27	667.2	.....	.....															Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.56	*750.8	29.61	752.0	65.8	18.8	67	SE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	
Fanöe	29.52	749.8	29.54	750.3	63.5	17.5	83	SE	.....	.....	2	.....	9	.....	.....	.....	.....	.....	
Godthaab, (Greenland)	29.46	748.3	29.50	749.4	49.3	9.6	73	S	.....	.....	6	.....	10	.....	.....	.....	.....	.....	Foggy
Stykkisholm, (Iceland)	29.58	751.2	29.62	752.3	51.8	11.0	92	SE	.....	.....	2	.....	8	.....	.....	.....	.....	.....	
Thorshavn, (Faröe)	29.65	753.1	29.69	754.0	54.0	12.2	91	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	
Vestervig	29.42	747.2	29.59	751.5	60.4	15.8	96	ENE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	Raining
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.17	740.9	29.72	754.9	66.9	19.4	81	S	.....	.....	1	.....	10	NE N	N	0.016	0.40	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.71	754.6	29.79	756.6	75.2	24	59	NW	.....	.....	1	.....	5	.....	NW	0.024	0.6	Cloudy	M. Giraud, Director.
Bar-sur-Seine	29.16	740.7	29.70	754.3	66.7	19.3	63	WSW	.....	.....	1	.....	8kn	.....	W	0.563	14.3	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.37	746.1	29.65	753.1	68.4	20 2	67	SW	.....	.....	2	.....	8	.....	WSW	0	0	Very cloudy	Frere Eugene Marie, irector.
Besançon	28.87	733.2	29.73	755.2	66.2	19	75	SSW	.....	.....	4	.....	10	.....	E	0.177	4.5	Lightly cov.	Normal School.
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.24	742.6	29.77	756.1	71.6	22	79	SW	.....	.....	1	.....	5kn	.....	SW	0.098	2.5	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.34	745.1	29.58	751.3	63.0	17.2	85	SW	.....	.....	2	.....	10	.....	SW	0.059	1.5	Raining	The Staff.
Carcassonne, Normal School	29.43	747.4	29.82	757.4	76.6	24.8	45	W	.....	.....	1	.....	5	W	.....	0	0	Cloudy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.11	739.3	29.65	753.2	73.8	23.2	75	S	.....	.....	2	.....	7	.....	N	0.008	0.2	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.33	744.9	29.63	752.7	69.1	20.6	59	SW	.....	.....	1	.....	5	SW	SW	0.354	9.0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.44	722.3	29.75	755.6	66.2	19.0	66	W	.....	.....	1	.....	.....	.....	W	0.217	5.5	.....	Alluard, Director.
Commercy, Normal School	28.88	733.6	29.74	755.3	65.1	18.4	72	W	.....	.....	3	.....	6kn	.....	W	0.28	7.	Cloudy	Dr. Coulet, Director.
Commune de Gréasque*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.50	749.2	29.71	754.6	63.7	17.6	90	SW	.....	.....	1	.....	10	.....	SW	0.091	2.8	Covered	Mouillot, Director.
Le Mans, Normal School	29.39	746.5	29.69	754.1	66.2	19	96	W	.....	.....	1	.....	5	.....	W	0.520	13.20	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.84	732.4	29.72	754.8	68.0	20	79	SW	.....	.....	2	.....	5	.....	SW	0.181	4.6	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.56	750.7	29.66	753.3	61.5	16.4	92	S	.....	.....	2	.....	10	.....	S	0.370	9.4	Covered	T. Carré, Director.
Mâcon, Normal School	29.78	756.3	29.81	757.1	64.4	18	94	SW	.....	.....	1	.....	5	.....	SW	0.047	1.2	Cloudy	M. Galzin, Director
Mirecourt, Normal School	28.62	726.9	29.63	752.6	64.9	18.3	72	SSW	.....	.....	3	.....	10	.....	SW	0.20	5.	Raining	M. Barbier, Director.
Nismes, Normal School	29.76?	755.9?	29.95?	760.8?	76.6	24.8	58	S	.....	.....	6	.....	5	.....	S	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.80	731.5	29.83	757.6	70.2	21.2	68	SE	.....	.....	4	.....	.....	NW	SE	0	0	.....	M. Cantier.
Puy de Dome (Summit)	24.97	634.3	.....	.....	46.8	8.2	100	W	.....	.....	4	.....	.....	.....	.....	0.894	22.7	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.73	755.1	29.76	755.9	67.1	19.5	87	WSW	.....	.....	3	.....	8	.....	WSW	0.59	15.	¾ Covered	M. Giguel, Director.
Rouen, Normal School	29.53	750.0	29.61	752.2	67.6	19.8	59	SW	.....	.....	2	.....	8	.....	SW	0.874	22.2	Very cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.61	752.2	66.0	18.9	73	SSW	.....	.....	2	.....	10	.....	SW	0	0	Covered	M. H. Hercouet.
Tarbes, Normal School	28.97?	735.8?	30.01?	762.3?	71.6	22	74	WSW	.....	.....	2	.....	10	.....	.....	0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	81.3	27.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchès.
Lyons	.....	.....	29.96	760.9	65.7	18.7	67	.....	.....	.....	.....	.....	9	.....	.....	0	0	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.78	756.5	74.5	23.6	55	W	.....	.....	2–3	.....	4	.....	.....	Inap.	Inap.	.....	The Staff.
Mont-Louis	24.77	629.1	30.08	764.1	62.2	16.8	48	SSW	7.4	3.33	.....	.....	3	.....	SE	0	0	.....	M. Cave.
Nice	.....	.....	29.67	753.7	78.4	25.8	56	Calm	.....	.....	3	.....	2	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.38	746.2	29.65	753.2	67.1	19 5	73	SW	.....	.....	4	.....	9	.....	WSW	0.232	5.9	.....	Marié Davy, Director
Perpignan	.....	.....	29.82	757.4	77.9	25.5	47	S	11.2	5.00	.....	.....	7	.....	W	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.50	571.4	.....	.....	46.4	8.0	.....	NW	.....	.....	3	.....	10	.....	.....	0.386	9.8	Stormy	Gen'l de Nansou y
Saint Maur, (near Paris)	29.50	749.2	29.66	753.4	68.0	20.0	68	SW	.....	.....	2	.....	7	WSW	WSW	0.016	0.4	.....	E. Renou.
Toulouse, Observatory	29.15	740.5	29.87	758.8	73.4	23.0	49	W	.....	.....	1	.....	8	.....	.....	0	0	.....	The Staff.
Tours	29.60	749.3	29.70	754.3	68.7	20.4	64	SW	.....	.....	1	.....	10	.....	W	0.327	8.3	.....	C. Marquet.
Versailles	.....	.....	29.67	753.7	61.5	16.4	79	SW	.....	.....	2	.....	10	.....	.....	0.221	5.62	Covered	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.94	760.4	29.96	761.0	68.2	20.1	96	NE	2.2	1.0	.....	.....	10n	.....	.....	0.780	19.8	Raining	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.76	730.5	29.61	752.2	68.2	20.1	73	N			2		6	W		0.12	3.	Raining	Prof. Dr. Hoh.
Berlin	29.43	747.6	29.60	751.8	66.0	18.9	76	S			1		10			0.307	7.8	Raining	Prof. Arndt.
Breslau	29.14	740.1	29.66	753.4	63.5	17.5	86	W			4		9			0.227	5.78		Royal University Obs'y
Carlsruhe	29.28	743.6	29.69	754.0	66.4	19.1	78	SW			1		10			0.177	4.5	Thunder-storm.	Albert Senz.
Cassel	29.10	739.0	29.70	754.3	69.1	20.6	71	SW			2		8	WSW		0.022	0.55		Dr. H. Möhl.
Crefeld	29.41	746.9	29.57	751.0	70.3	21.3	62	SW			5		8k			0.04	1.		Director Lose.
Emden	29.45	748.0	29.49	749.0	71.1	21.7	68	SW			1		5			0.043	1.1		Prof. Prestel.
Frankfort on the Main	29.29	744.0	29.64	752.6	71.8	22.1		WSW			3		4			1.138	28.9		Physical Society.
Friedrichshafen	28.35	720.0	29.73	755.2	66.2	19.0	69	SW			3		8	SW		0.098	2.5		M. Wilhelm.
Hamburg	29.50	749.2	29.56	750.9	68 9	20.5	76	SW			2		9ck			0.055	1.4	Fair	Captain F. Hegemann.
Kiel	29.54	750.4	29.56	750.8	62.8	17.1	90	E			2		10			0.148	2.74		Prof. G. Karsten.
Königsberg, (Prussia)	29.72	754.8	29.80	756.8	72.7	22.6	45	SE			4		2			0	0		Prof. E. Luther.
Köslin			29.58	751.3	63.5	17.5		SE			4		4			0	0		H. Müller.
Leipsic, Observatory	29.24	742.7	29.65	753.0	66.0	18.9	69	SW			1		9	WSW		0.346	8.8		Prof. Bruhns.
Memel, Naval School																			Reinbrecht and Skalweit.
Neufahrwasser	29.71	754.6	29.72	755.0	75.0	23.9	42	SE			4		7			0	0		A. Lothes.
Posen	29.38	746.3	29.67	753.5	63.3	17.4	90	SE			6		10			0.075	1.9		Dr. Magener.
Strassburg (in Alsace)	29.17	741.0	29.70	754.4	69.8	20.7	67	SSW			3		8	W		0.120	3.05	Raining	Astronomical Observatory.
Stuttgart	28.76	730.6	29.66	753.4	69.8	21.0	49	NW			1		8	W		0.024	0.6		Prof. Schoder.
Treves, (Trier)	29.14	740.1	29.65	753.1	68.7	20.4	68	W			4		8			0.141	2.57		Prof. Flesch.
Weissenburg, (Bavaria)	28.24	717.2	29.69	754.0	61.2	16.2	82	W	1.8	0.8			8ck		W	0.098	2.5	Raining	Dr. Von Bebber.
Wustrow, Naval School	29.58	751.2	29.61	752.2	60.8	16.0	72	SE			4		10			0.193	4.9		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.39	746.6	29.70	756.0	90.3	32.4		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.23	742.4	29.70	754.3	85.1	29.5	77	S				3	S			Blank	Blank	D. clouds	
Bombay	29.70	754.3	29.73	755.2	83.6	28.7	83	SW	9	4.0		3	SW			0.03	0.8	D. clouds	
Poona	27.72	704.0	29.70	754 3	80.7	27.1	68	WSW				6		WSW		0	0	D. clouds	
Lahore	28.75	731.1	29.50	749.4	92.1	33.4	64	SW	0.6	0.3						0	0	Blue sky	
Belgaum	27.23	691.7	29.76	755.9	75.9	24.4	85	W	7	3.1		7	E			0	0	D. clouds	
Roorkee	28.62	727.0	29.50	749.3	86.8	30.4	78	Calm	1.7	0.8		8				0.91	23.1		
Agra	29.00	736.6	29.55	750.6	89.7	32.1	70	W				9				0	0		
Nagpur	28.63	727.2	29.66	753.3	84.6	29.2	82	Calm	3.6	1.6		9		E		0.18	4.6	D. clouds	
Lucknow																			
Allahabad	29.23	742.4	29.53	750.1	89.2	31.8	77	WSW	1.4	0.6		10		W		0	0	Overcast	
Patna	29.38	746.2	29.56	750.8	85.6	29.8	82	E	1.5	0.7		8	E	E		0	0	D. clouds	
Hazaribagh	27.62	701.4	29.60	751.9	80.8	27.1	82	WSW	9.2	4.1		10	NW	SW		0	0	Raining	
Cuttack	29.55	750.7	29.64	752.7	86.1	30.1	75	S	3.8	1.7		7				0.77	19.6	D. clouds	
Calcutta (Alipore)	29.61	752.0	29.63	752.6	84.9	29.4	87	S	8	3.6		10	SW			0.01	0.3	Showery	
Goalpara	29.23	742.4	29.62	752.3	76.9	24.9	95	Calm	2.3	1.0		10		SW		1.73	43.9	Overcast	
Chittagong	29.64	752.8	29.73	755.1	83.9	28.8	85	S	6.1	2.7		6				0	0	Misty	
Sibsagar	29.30	744.2	29.63	752.6	80.3	26.8	93	WSW	3.8	1.7		10	W	W		1.81	46.0	Overcast	
Jubbulpore	28.31	719.1	29.67	753.6	80.2	26.8	85	NW	4.8	2.2		10				0	0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10.	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.27	743.4	29.66	753.4	78.8	23.2	65	NW	0.7	0.3	.....	.....	10	.....	.....	2.732	69.4	.....	Prof. Giovanni Clodig.
Padua	29.55	750.6	29.64	753 3	75.0	23.9	49	N	7.4	3.3	.....	.....	9	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.59	749.4	29.69	754.1	74.1	23.4	67	N	0	0	.....	.....	3	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.38	720.9	29.65	753.0	74.1	23.4	56	WSW	.....	.....	2	.....	1	.....	.....	0.126	3.2	.....	Prof. Trionfini Carlo.
Milan	29.16	740.6	29.66	753.3	75.9	24.4	60	SSW	.....	.....	2	.....	2	SW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.78	730.9	29.65	753.0	76.8	24.9	45	ESE	5.6	2.5	.....	.....	2	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	27.80	706.0	29.65	752.5	76.1	24.5	36	SE	.....	.....	2	.....	5	NW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.47	748.6	29.69	754.0	79.5	26.4	48	ESE	.....	.....	2	.....	6	W	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.53	750.1	29.69	754.2	77.2	25.1	51	S	.....	.....	4	.....	2	NW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.36	745.8	29.67	753.6	76.6	24.8	40	NW	.....	.....	6	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.49	749.0	29.73	755.2	72.5	22.5	65	NW	.....	.....	2	.....	9	W	.....	0.197	5.0	.....	Cav. F. Meucci.
Leghorn	29.59	751.6	29.67	753.7	80.1	26.7	67	SSW	20.6	9.2	.....	.....	0	.....	.....	0.047	1.2	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.21	716 5	29.69	754.2	74.1	23.4	44	SW	.....	.....	2	.....	5	.....	.....	0.138	3.5	.....	Prof. P. Serpieri.
Rome	29.59	751.5	29.76	755.8	80.4	26.9	55	W	15.4	6.9	.....	.....	2	.....	.....	0.020	0.5	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.58	751.4	29.78	756 3	78.6	25.9	54	WNW	.....	.....	6	.....	6	W	.....	0.532	13.5	.....	Prof. L. Palmieri.
Lecce	29.47	748.5	29.72	754 8	79.0	26.1	80	SSW	3.1	1.4	.....	.....	10	SW	.....	0.126	3.2	.....	Prof. C. De Giorgi.
Cagliari	29.64	752.8	29.83	757.6	81.9	27.7	58	SW	.....	.....	2	.....	5	NW	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	28.94	735.1	29.78	756.5	77.4	25.2	74	SE	0	0	.....	.....	10	.....	.....	1.032	26.2	.....	Prof. F. D. Conti.
Palermo	29.59	751.5	29.84	757.8	83.2	27.9	37	N	22.4	10.0	.....	.....	2	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.73	755:1	29.81	757.1	83.3	28.5	72	SE	.....	.....	2	.....	5	SW	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.24	742.8	29.80	756.9	76.8	24.9	63	SSW	13.0	5.8	.....	.....	4	SW	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 461 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.70	754.4	29.90	759.4	71.8	22.1	71	ENE	2.7	1.2	.....	.....	0	.....	.....	0	0	Clear	T. Arai, Director.
Tokei (Yeddo) Observatory.	29.87	758.7	29.93	760.2	78.0	25.6	89	ENE	5.8	2.6	.....	.....	7s	.....	.....	0.180	4.57	Cloudy	
Tokei (Yeddo) University..	29.82	757.4	29.91	759.8	77.5	25.3	93	NE	3.4	1.5	.....	.....	1s	.....	.....	0	0	Fine	Prof. P. V. Veeder.

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	61.7	16.5	85	Calm	0	0	.....	7c	0	.....	.....	0	0	Cloudy	L. Castillo, A. E.
Guadalajara	25.12	638.0	30.09	764.4	55.8	13.2	89	SW	0.9	0.4	.....	0	4ks	.....	.....	0.18	4.6	½ cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	24.46	621.4	30.00	762.0	62.6	17.0	84	NW	0.9	0.4	.....	5c	2s	W	.....	0.12	3.0	Cloudy	Prof. M. Leal.
Mexico	23.15	587.9	30.17	766.2	53.8	12.0	86	Calm	0	0	.....	0	2k	.....	.....	0	0	Clear	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	61.5	16.4	87	W	0.9	0.4	.....	1c	2s	NE	.....	0	0	Clear	M. V. de Leon, M. E.
Puebla	23.39	594.0	30.08	764.0	51.1	10.6	87	E	2.0	0.9	.....	1c	3cs	.....	.....	0.54	13.6	Clear	Prof. B. Gonzalez.
Tlacotalpam	29.96	760.8	29.97	761.1	79.7	26.5	88	SW	1.8	0.8	.....	7ck	0	.....	.....	0	0	Cloudy	Prof. F. R. Bayly.
San Luis Potosí	24.26	615.4	30.19	766.7	61.0	16.1	55	E	0.9	0.4	.....	1	7	W	E	0	0	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.97	761.3	30.00	762.0	78.8	26.0	84	Calm	0	0	.....	4c	2k	.....	.....	0	0	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	59.0	15.0	78	E	1.8	0.8	.....	0	10	.....	.....	0.24	6.0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.26	590.5	29.99	761.9	49.1	9.5	94	ENE	3.1	1.4	.....	1	0	.....	.....	0.50	12.6	Clear	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.06	763.4	75.2	24.0	80	Calm	0	0	.....	0	6	.....	SW	2.80	63.6	½ cloudy	R. Banda, C. E.
San Juan E. Michapam	29.78	756.4	29.92	760.1	77.7	25.4	.....	W	0.9	0.4	.....	10n	.....	N	.....	0.16	4.0	Raining	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosí, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.3 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.54	750.3	29.54	750.3	67.8	19.9	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.039	1.0	.....	
Groningen	29.47	748.5	29.52	749.9	65.3	18.5	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.45	748.0	29.45	748.0	66.4	19.1	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.031	0.8	.....	
Hellevoetsluis	29.50	749.4	29.50	749.4	64.8	18.2	93	SW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.48	748.9	29.53	750.1	66.2	19.0	84	SSW	.....	.....	4	.....	10	.....	.....	0.130	3.3	Dull	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the [illegible] as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.67	753 5	29.72	754.9	70.9	21.6	34	NW	3.8	1.7	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.87	758.6	29.91	759.6	51.3	10.7	63	N	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.63	752.5	29.77	756.1	70.7	21.5	39	SE	9	4	.....	.....	3	.....	.....	0	0	.....	
Tromsö	29.81	757.2	29.85	758.3	44.2	6.8	80	N	18	8	.....	.....	10	.....	.....	0.161	4.1	Light rain...	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h..4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.79	756.6	29.97	761.3	75.7	24.3	91	W	10.5	4.7	.....	.....	6	.....	.....	0.197	5.0	.....	Dr. J. A. Sampaio.
Campo Major	28.99	736.3	29.97	761.1	82.0	27.8	48	WNW	9.4	4.2	.....	.....	4	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.98	761.5	30.07	763.7	79.2	26.2	65	SW	6.9	3.1	.....	.....	7	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.66	753.4	30.01	762.3	72.1	22 3	87	SW	18.6	8.3	.....	.....	7	W	.....	0.016	0.4	.....	The Staff.
Ponta Delgada, (Azores)	29.96	761.0	30.03	762.7	77.0	25.0	85	SW	12.5	5.6	.....	.....	3	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 38′, W. 16° 55′	.....	.....	30.07	763.6	80.2	26.8	.....	Calm	.....	.....	0	.....	5	.....	N	1	.....	D. clouds.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	763.0	70.7	21.5	.....	Calm	.....	.....	0	.....	0	.....	.....	0	.....	Blue sky.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.95	760.8	91.2	32.9	.....	WNW	.....	.....	1	.....	3	.....	NE	2	SW	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.97	761.3	72.5	22.5	.....	W	.....	.....	0	.....	10	.....	E	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Impèrial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.29?	743.9?	29.69?	754.1?	74.1	23.4	56	SSE	20	9	.....	.....	8cks	.....	.....	.....	.....	Solar corona	Astronomical Obs.
Wilna	29.53	750.1	29.93	760.3	71.1	21.7	46	SSE	7	3	.....	.....	1	.....	.....	.....	.....	Light clouds	Astronomical Obs.
Dorpat	29.77	756.2	30.00	762.1	66.6	19.2	43	SSW	4	2	.....	.....	0	.....	.....	.....	.....	.....	Prof. Dr. Weibrauch.
St. Petersburg	29.93	760.2	29.95	760.6	63.0	17.2	57	NNW	16	7	.....	.....	2s	.....	.....	.....	.....	Light clouds	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.34	745.3	29.95	760.8	70.7	21.5	47	ESE	4	2	.....	.....	2ck	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.97	761.1	30.04	762.9	77.4	25.2	41	SE	9	4	.....	.....	6cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.04	763.1	30.07	763.6	75.9	24.4	68	NE	7	3	.....	.....	1	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.48	748.8	30.02	762.5	62.2	16.8	62	NNW	9	4	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.78	756.4	29.98	761.5	73.0	22.8	36	WNW	9	4	.....	.....	2ck	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.60	751.7	29.61	752.2	59.2	15.1	74	W	13	6	.....	.....	8n	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.46	722.9	29.80	757.0	78.6	25.9	38	N	13	6	.....	.....	1c	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.06	763.5	29.98	761.4	66.6	19.2	61	E	7	3	.....	.....	8ks	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.53	750.1	29.80	756.8	62.8	17.1	54	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.63	727.1	29.54	750.4	61.5	16.4	63	SW	22	10	.....	.....	5k;ks	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.42	747.3	29.64	752.8	91.2	32.9	36	NNW	4	2	.....	.....	1k	.....	.....	.....	.....	.....	
Tashkend	28.12	714.1	29.70	754.3	85.6	29.8	63	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.39	746.5	29.89	759.3	69.3	20.7	41	NNE	0	0	.....	.....	0	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.70	754.4	29.98	761.5	70.5	21.4	64	NNW	4	2	.....	.....	3	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.71	754.5	29.85	758.1	72.1	22.3	86	Calm	0	0	.....	.....	8n	.....	.....	.....	.....	Lightning ...	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.69	754.1	29.79	756.7	80.6	27	58	W	3.2	1.44	.....	.....	1k	.....	.....	0	0	Clear.	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.69	754.2	29.75	755.6	86.7	30.4	42	SW	3.5	1.56	.....	2	1	W	.....	Inap.	Inap.	Almost clear	Prof. Manuel de Naveran
Burgos, Met. Obs'y	26.98	685.3	.....	.....	74.5	23.6	64	S	10.5	4.72	.....	.....	9	.....	.....	0	0	Almost cov.	Domingo Martin y Perez
Madrid, Royal Observatory	27.73	704.4	29.71	754.6	85.1	29.5	30	SW	11.9	5.34	.....	0	0	.....	.....	0	0	Clear.....	The Staff.
Murcia, Met. Obs'y	29.74	755.3	29 88	758.9	95.2	35.1	35	NW	3.2	1.44	.....	.....	.....	.....	.....	0	0	Clear.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.91	734.3	29.78	756.3	71.4	21.9	78	SW	22.7	10.14	.....	.....	7	.....	.....	0.122	3.1	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.88	758.9	29.94	760.5	78.4	25.8	85	Calm	0	0	.....	7ck	1sk	Calm	.....	0.043	1.1	Fair.....	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.6	30.00	762.0	77.4	25.2	68	W	16.7	7.4	.....	0	2	.....	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.96	760.9	30.05	763.2	81.7	27.6	88	SE	0	0	.....	3cs	4kn	SE	SE	0	0	Cloudy.....	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer educed to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.81	757.2	29.85	758.2	58.6	14.8	.....	NW	.....	.....	4	.....	5	.....	.....	0	0	.....	
Umea	29.89	759.1	29.94	760.4	64.4	18.0	55	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	
Hernosand	29.87	758.8	29.93	760.1	63.3	17.4	57	ESE	.....	.....	4	.....	2	.....	.....	0	0	.....	
Stockholm	29.73	755.1	29.91	759.6	66.2	19.0	51	S	.....	.....	2	.....	2	.....	.....	0	0	.....	
Wisby	29.80	756.9	29.86	758.4	70.2	21.2	51	ESE	.....	.....	6	.....	3	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.80	757.0	29.88	758.9	71.2	21.8	45	S	10.1	4.5	.....	.....	2	W	.....	0.005	0.13	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.39	721.1	29.77	756.2	69.1	20.6	63	SW	.....	.....	3	.....	7	.....	.....	0.071	1.8	Vapory.....	The Observatory.
Zurich	28.17	715.6	29.77	756.2	65.8	18.8	72	W	.....	.....	2	.....	5	.....	.....	0.071	1.8	Bright.....	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —6.6 mm.; Thermometer, —0.3 cent.; Relative Humidity, +6 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.83	757.6	81.0	27.2	52	ENE	9	4.0	.....	.....	1	.....	SW	0	0	.....	The Observatory.
Valona	.....	.....	29.93	760.2	81.0	27.2	.....	S	.....	.....	2	.....	10	.....	.....	0	0	Squally.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.68	753.9	29.74	755.5	88.5	31.4	71	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation: no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Hon. J. Ferguson.
Brockville, Ontario	29.33	745.0	29.63	752.6	63	17.2	.....	NW	1	0.4	.....	.....	8s	.....	NW	0.36	9.1	Cloudy.....	W. R. Bigg.
*Chatham, N B	29.57	751.1	29.63	752.6	61	16.1	85	S	15	6.7	.....	.....	10ks	.....	S	0	0	Cloudy.....	G. A. Blair.
Charlottetown, P. E. Island	29.73	755.1	29.77	756.1	60	15.6	79	SW	17	7.6	.....	.....	8ks	.....	SW	0	0	Cloudy	H. J. Cundill, C. E
Cornwall, Ontario	29.40	746.7	29.58	751.3	62.5	16.9	93	N	.....	.....	1	.....	10s	.....	.....	0.158	4.01	Overcast.....	James Smith, M. A
Dalhousie, N. B	29.36	745.7	29.51	749.5	60	15.6	98	E	.....	.....	2	.....	.....	.....	.....	0.11	2.8	Raining.....	H. A. Johnson.
Esquimault, B. C	29.98	761.5	30.03	762.7	59.2	15.1	94	S	.....	.....	.....	1cs	0	.....	.....	0	0	Clear.	W. H. Bevis.
*Father Point, Quebec	29.44	747.8	29.46	748.3	57	13.9	94	SW	18	8.0	.....	.....	10n	.....	SW	0.19	4.8	Light rain	J. McWilliams.
Fredericton, N. B	29.60	751.8	29.66	753.4	60.8	16 0	83	SW	7	3.1	.....	.....	10n	.....	.....	0.820	20.83	Cloudy.....	Prof. Harrison.
*Fort Garry Manitoba	29.29	744.0	30.12	765.0	48	8.9	92	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.77	730.7	29.85	758.2	60	15.6	94	NE	.....	.....	2	0	0	.....	.....	0.34	8.6	Clear	James Grant.
*Halifax, N. S	29.66	753.4	29.79	756.7	62	16.7	85	S	9	4.0	.....	8ck	2ks	.....	S	0	0	Cloudy	F. Allison, M. A.
Hamilton, Ontario	29.44	747.8	29.80	756.9	65.1	18.4	75	NW	.....	.....	3	1c	0	N	.....	0.72	18.3	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.94	760.5	29.91	759.7	61	16.1	61	SW	.....	.....	2	0	0	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.36	745.7	29.69	754.1	64	17.8	83	N	7	3.1	.....	5ck	0	SW	.....	0.36	9.1	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	29.81	757.2	29.85	758.2	65.0	18.3	.....	SW	14	6 3	.....	5k	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.39	746.5	29.58	751.3	62	16.7	83	NW	9	4.0	.....	.....	10ks	.....	N	0.69	17.5	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.10	741.4	29.87	758.7	57	13.9	84	N	18	8.0	.....	0	0	.....	.....	0.24	6.1	Clear	Rev. R. Mosley.
Peterboro, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.35	8.9	.....	J. F. Jeffers, B. A.
Port Dover, Ontario	29.12	739.6	29.79	756.7	62	16.7	88	NW	11	4.9	.....	5k	0	NW	.....	0.09	2.3	Fair	H. Morgan.
Port Hastings, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Peter Grant.
Port Stanley, Ontario	29.20	741.7	29.83	757.7	64	17.8	79	W	5	2.2	.....	0	0	.....	.....	0.16	4.1	Clear	M. Payne.
*Quebec, Quebec	29.29	741.7	29.51	749.5	61	16.1	94	NE	.....	.....	2	2ks	2cs	NE	NE	0.16	4.1	Fair	Capt. Ashe, R. N
*Rockliffe, Ontario	29.35	745.5	29.80	756.9	56	13.3	84	NW	8	3.6	.....	5ck	0	NW	.....	0.33	8.4	Fair	W. H. McIntyre.
St. Andrews, N. B	29.62	752.3	29.67	753.6	58	14.4	93	SW	5	2.2	.....	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.57	751.1	29.73	755.1	58	14.4	100	S	19	8.5	.....	.....	10ks	.....	.....	0.77	19.6	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.18	741.2	29.88	758.9	62	16.7	57	N	18	8.0	.....	2k	0	N	.....	0.05	1.3	Clear	K. Stewart.
Stayner, Ontario	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. J. Cole.
Stratford, Ontario	28.64	727.4	29.89	759.2	58.9	14.9	73	NW	13	5 8	.....	0	0	.....	.....	0.471	11.97	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.80	756.9	29.83	757.7	63	17.2	70	S	8	3.6	.....	2ck	8ks	NE	SW	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.41	747.0	29.77	756.1	66	18.9	69	NW	14	6.3	.....	0	0	.....	.....	0.26	6.6	Clear	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Delany.
	.....	.....	.....	.....	64.0	17.8	72	S	.....	.....	.....	0	0	.....	.....	0	0	Fair	

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Byt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.36	745.7	29.58	751.3	66	18.9	84	S	11	4.9			10s		SW	0.18	4.6	Cloudy	
Alpena, Michigan	29.33	745.0	29.96	761.0	58	14.4	53	N	18	8 0		0	0			0	0	Clear	
Atlantic City, New Jersey	29.73	755.1	29.75	755.6	73	22.8	81	SW	15	6.7		8c	0	SW		0	0	Fair	
Augusta, Georgia	29.80	756.9	29.98	761.5	75	23.9	77	SE	1	0.4		2ck	Haze	Calm		0	0	Fair	
Baltimore, Maryland	29.68	753.9	29.73	755.1	70	21.1	75	SW	6	2.7			10s		SW	0	0	Cloudy	
Barnegat, New Jersey	29.72	754.9	29.74	755.4	73	22.8	81	SW	20	8.9		10ck	0	NW		0	0	Cloudy	
Bismarck, Dakota	28.41	721.6	30.27	768.8	50	10.0	79	NE	4	1.8		0	0			0	0	Clear	
Boerne, Texas	28.58	725.9			79	26.1	87	Calm	0	0		5k	0	SE		0	0	Fair	
Boise City, Idaho	27.20	690.9	30.16	766.1	61	16.1	44	SE	4	1.8		0	0			0	0	Clear	
Boston, Massachusetts	29.52	749.8	29.67	753.6	64.5	18.1	94	SW	12	5.4			10s		SW	0.19	4.8	Threatening	
Brackettville, Texas	28.87	733.3	29.85	758.2	78	25.6	82	Calm	0	0		2cs	0	Calm		0	0	Fair	
Breckenridge, Minnesota	29.20	741.7	30.22	767.6	42	5.6	95	NW	4	1.8		0	0			Inap.	Inap.	Clear	
Brownsville, Texas	29.89	759.2	29.96	761.0	76	24.4	95	Calm	0	0		0	0			0	0	Clear	
Buffalo, New York	29.07	738.4	29.74	755.4	61	16.1	88	W	11	4.9			10s		W	1.42	36.1	Cloudy	
Burkes, Arizona					83	28.3	53	Calm				0	0	0		0	0	Clear	
Burlington, Vermont	29.33	745.0	29.58	751.3	64	17.8	89	NW	5	2.2				10n		NW	0.58	14.7	Light rain	
Cairo, Illinois	29.49	749.0	29.86	758.4	76	24.4	86	SW	6	2.7				10s		SW	0.05	1.3	Cloudy	
Camp Apache, Arizona					67	19.4	84	NE				1	0	5s		Calm	Blank	Blank	Fair
Camp Grant, Arizona	25.28	642.1	30.08	764.0	65	18.3	73	NW				1	0	0			0	0	Clear
Camp Verde, Arizona	26.80	680.7	30.29	769.4	74	23.3	81	SE				1	0	0			0	0	Clear
Campo, California	27.47	697.7	30.04	763.0	49	9.4	77	E				1	0	0			0	0	Clear
Cape Hatteras, N. Carolina	29.91	759.7	29.92	760.0	74	23.3	72	W	2	0.9		2k	0	SW		0.07	1.8	Fair	
Cape Henry, Virginia	29.85	758.2	29.87	758.7	69	20.6	80	S	16	7.2		0	0			0	0	Clear	
Cape Lookout, N. Carolina	29.91	759.7	29.93	760.2	76	24.4	82	NE	4	1.8		2c	0	Calm		0	0	Fair	
Cape May, New Jersey	29.74	755.4	29.77	756.1	72	22.2	81	S	22	9.8			10s		W	0	0	Cloudy	
Castroville, Texas	29.22	742.2	29.88	758.9	82	27.8	79	Calm	0	0		0	5ks		SE	0	0	Fair	
Charleston, South Carolina	29.94	760.5	30.00	762.0	74	23.3	68	N	3	1.3		0	Sm'e		Calm	0	0	Clear	
Cheyenne, Wyoming	24.28	616.7	30.22	767.6	52	11.1	100	S	12	5.4			Fog			0.13	3.3	Foggy	
Chicago, Illinois	29.29	744.0	29.95	760.7	69	20.6	56	NE	11	4.9		5k	0	NE		1.06	26.9	Fair	
Cincinnati Ohio	29.17	740.9	29.78	756.4	74	23.3	86	NW	5	2.2			10n		NW	0.25	6.3	Light rain	
Cleveland, Ohio	29.16	740.7	29.85	758.2	63	17.2	78	NW	8	3.6			10n		N	0.06	1.5	Light rain	
Coleman City, Texas	28.22	716 8	29.80	756.9	80	26.7	70	Calm	0	0		5c	0	Calm		0	0	Fair	
Columbus, Ohio	29.00	736.6	29.80	756.9	64	17.8	89	NE	12	5.4			10ks		NW	0.35	8.9	Cloudy	
Conceo, Texas	28.10	713.7	29.72	754.9	73	22.8	76	Calm	0	0		0	0			0	0	Clear	
Corsicana, Texas	29.52	749.8	29.97	761.2	77	25.0	86	Calm	0	0		1cs	0	Calm		0	0	Clear	
Davenport, Iowa	29.43	747.5	30.06	763 5	61	16.1	77	N	10	4.5		0	0			0.16	4.1	Clear	
Denison, Texas	29.20	741.7	29.95	760.7	81	27.2	78	SW	5	2.2		8cs	0	Calm		0	0	Fair	
Denver, Colorado	25.01	635.2	30.25	767.8	61	16.1	88	N	4	1.8			10n		Calm	1.05	26.7	Light rain	
Des Moines, Iowa	29.24	742.7	30.10	764.5	67	19.4	69	N	2	0.9		0	0			0.27	6.9	Clear	
Detroit, Michigan	29.23	742.4	29.88	758.9	62	16.7	67	N	8	3.6		0	0			0.02	0.5	Clear	
Dodge City, Kansas	27.56	700.0	29.85	757.7	57	13.9	100	NE	24	10.7			10n		NE	0.10	2.5	Light rain	
Dubuque, Iowa	29.42	747.3	30.11	764.8	62	16.7	72	NE	4	1.8		0	Fog		Calm	0	0	Foggy	
Duluth, Minnesota	29.45	748.0	30.11	764 8	60	15.6	65	Calm	0	0		0	0			0	0	Clear	
Eagle Pass, Texas	29.24	742.7	29.95	760.7	77	25.0	91	Calm	0	0		0	0			0.04	1.0	Clear	
Eastport, Maine	29.62	752.3	29.68	753.9	58	14.4	88	S	12	5.4			Fog		S	0	0	Foggy	
Edinburg, Texas					84	28.9	79	Calm	0	0		0	0			0	0	Clear	
El Paso, Texas					78	25.6	73	W	2	0.9		2c	0	Calm		0	0	Clear	
Erie, Pennsylvania	29.10	739.1	29.79	756.7	60	15.6	88	SW	1	0.4			10s		Calm	1.14	29.0	Cloudy	
Escanaba, Michigan	29.43	747.5	30.07	763.8	56	13.3	69	W	3	1.3		0	0			Inap	Inap.	Clear	
Florence, Arizona					79	26.1	82	Calm				0	0	0		0	0	Clear	
Fort Craig, New Mexico	25.61	650.5	29 67	753.6	69	20.6	79	Calm	0	0			0	0		0	0	Clear	
Fort Davis, Texas	25.31	642.9	30.27	768.8	68	20.0	68	NW	6	2.7			0	0		0	0	Clear	
Fort Gibson, Indian Ter	29.42	747.3	29.93	760.2	80	26.7	87	Calm	0	0		5ck	0	N		0	0	Fair	
Fort Griffin, Texas	28.72	729.5	29.84	757.9	73	22.8	81	Calm	0	0		2cs	0	Calm		0	0	Clear	
Fort McKavett, Texas	27.80	706.1	29.63	752.6	78	25.6	73	SW	1	0.4		0	0			0	0	Clear	
Fort St. Michael, Alaska																			
Fort Sill, Indian Territory	28.80	731.5	29.86	758.4	72	22.2	76	N	3	1.3		2c	0	Calm		0	0	Fair	
Fredericksburg, Texas	28.27	718 0	29.76	755.9	76	24.4	86	SW	1	0.4		0	10s		Calm	0	0	Cloudy	
Galveston, Texas	29.95	760.7	29.99	761.7	82	27.8	75	SE	2	0.9		0	5ks		Calm	0	0	Fair	
Graham, Texas																			
Grand Haven, Michigan	29.37	746.0	30.00	762.0	63	17.2	57	N	10	4.5		0	0			0.03	0.8	Clear	
Indianapolis, Indiana	29.13	739.9	29.88	758.9	66	18.9	79	NE	12	5.4			10s		Calm	0.32	8.1	Threatening	
Indianola, Texas	29.96	761.0	29.99	761.7	81	27.2	78	Calm	0	0		2k	0	E		0	0	Fair	
Jacksboro, Texas	28.85	732.8	29.93	760.2	76	24.4	77	S	2	0.9		1c	0	S		0	0	Clear	
Jacksonville, Florida	29.96	761.0	29.98	761.5	76	24.4	73	Calm	0	0		0	0			0	0	Clear	
Keokuk, Iowa	29.38	746.2	29.98	761.5	68	20.0	60	N	14	6.3		0	1s		Calm	0.44	11.2	Clear	
Key West, Florida	29.90	759.4	29.94	760.5	81	27.2	78	Calm	0	0		3cs;k	1ks	W; Calm	Calm	1.18	30.0	Fair	
Kittyhawk, North Carolina	29.86	758.4	29.88	758.9	72	22.2	85	W	15	6.7		5c	0	N		0.04	1.0	Fair	
Knoxville, Tennessee	29.94	735.1	29.90	759.4	74	23.3	81	W	1	0.4		5cs	0	SW		0.03	0.8	Fair	
La Crosse, Wisconsin	29.46	746.7	30.13	765.3	55	12.8	81	N	4	1.8		0	0			0	0	Clear	
La Mesilla, New Mexico	26.13	663.7	30.28	769.1	69	20.6	85	Calm	0	0		2c	0	Calm		0	0	Fair	
Laredo, Texas	29.53	750.0	29.86	758.4	79	26.1	87	SE	2	0.9		0	0			0.03	0.8	Clear	
Lead City, Dakota	25 00	635.0	30.27	768.8	55	12.8	87	N	1	0.4		10k	0	N		0	0	Cloudy	
Leavenworth, Kansas	29.17	740.9	29.98	761.5	66	18.9	74	NE	8	3.6		0	8ks		N	0.32	8.1	Fair	
Los Angeles, California	29.70	754.4	30.03	762.7	64	17.8	80	Calm	0	0			10s		Calm	0	0	Cloudy	
Louisville, Kentucky	29.32	744.7	29.84	757.9	76	24.4	86	SW	5	2 2			10s		Calm	Inap.	Inap.	Cloudy	
Lynchburg, Virginia	29.16	740.7	29.81	757.2	73	22.8	81	SW	2	0.9		0	8ks		Calm	0	0	Cloudy	
Marquette, Michigan	29.35	745.5	30.03	762.7	62	16.7	56	W	8	3.6		0	0			0	0	Clear	
Mason, Texas	28.39	721.1	30.07	763.8	77	25.0	72	Calm	0	0		0	0			0	0	Clear	
Memphis, Tennessee	29.63	752.6	29.93	760.2	79	26.1	74	SW	4	1 8			10s		SW	0	0	Cloudy	
Milwaukee, Wisconsin	29.31	744.5	30.02	762.5	60	15.6	77	N	12	5.4		0	0			0.02	0.5	Clear	
Mobile, Alabama	29 96	761.0	30.00	762.0	76.5	24.7	83	SE	3	1.3		0	0			Inap.	Inap.	Clear	
Montgomery, Alabama	29.76	755.9	29.99	761.7	78	25.6	73	Calm	0	0		0	0			0	0	Clear	
Morgantown, West Virginia	28.76	730.5	29.75	755.6	72	22.2	85	SW	5	2.2			10s		SW	0	0	Threatening	
Mt. Washington, N. H.	23.57	598.7	29.93	760.2	49	9.4	100	NW	25	11.2			10n		NW	0.96	24.4	Light rain	
Nashville, Tennessee	29.40	746.7	29.90	759.4	75	23.9	81	Calm	0	0			10s		Calm	0	0	Cloudy	
New Haven, Connecticut	29.58	751.5	29.69	754.1	69	20.6	99	SW	8	3.6			10n		SW	0.06	1.5	Light rain	
New London, Connecticut	29.68	753.9	29.72	754.9	68	20.0	95	S	15	6.7			10n;s		S	0.03	0.8	Light rain	
New Orleans, Louisiana	29.93	760.2	29.98	761.5	81	27.2	78	NE	4	1.8		0	Haze		Calm	0	0	Clear	
Newport, Rhode Island	29.68	753.9	29.75	755.1	68	20.0	90	SW	8	3.6			10s		SW	Inap.	Inap.	Threatening	
New York, New York	29.54	750.3	29.71	754.6	69	20.6	84	SW	15	6.7			10ks		SW	0	0	Cloudy	
Norfolk, Virginia	29.80	756.9	29.86	758.4	72	22.2	80	S	11	4.9		0	Haze			0	0	Clear	
North Platte, Nebraska	27.34	694.4	29.88	758.9	59	15.6	73	NE	5	2.2		10k	0	N		0	0	Cloudy	
Olympia, Washington Ter.	30.06	763.5	30.10	764.5	59	15.0	81	Calm	0	0			10s		Calm	0	0	Cloudy	
Omaha, Nebraska	29.02	737.1	30.08	764.0	62	16.7	72	N	6	2.7		0	0			0	0	Clear	
Oswego, New York	29.39	746 5	29.69	754.1	66	18.9	89	N	12	5.4			10n		N	1.06	26.9	Light rain	
Pembina, Dakota	29.33	745.0	30.17	766.3	42	5.6	91	S	2	0.9		0	0			0	0	Clear	
Philadelphia, Pennsylvania	29.68	753.9	29.73	755.1	70	21.1	80	SW	14	6.3			10s		W	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature.		Reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind. Direction.	Velocity.		Force.	Clouds. Amount.		Clouds. Direction.		Rain-fall or melted snow in the past 24 hours.		Weather.	Observer.
	Inches.	Millimeters.	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Phœnix, Arizona	28.79	731.3	.....	.....	84	28.9	61	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.15	461.0	30.36	771.1	38	3.3	54	SW	7	3.1	.....	5k	0	SW	.....	0.90	22.9	Fair	
Pioche, Nevada	24.21	614.9	29.98	761.5	61	16.1	45	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	28.97	735.8	29.74	755.4	69	20.6	85	N	12	5.4	.....	.....	10n	.....	N	0.07	1.8	Light rain	
Port Huron, Michigan	29.21	741.9	29.85	750.2	64	17.8	68	N	14	6.3	.....	0	0	.....	.....	0.31	7.9	Clear	
Portland, Maine	29.56	750.8	29.61	752.1	61	16.1	94	S	15	6.7	.....	.....	10n	.....	Calm	0.39	9.9	Light rain	
Portland, Oregon	30.06	763.5	30.17	766.3	61	16.1	82	NW	1	0.4	.....	.....	10s	.....	Calm	0	0	Cloudy	
Prescott, Arizona	24.99	632.4	30.26	768.6	61	16.1	94	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Pilot Point, Texas	29.20	741.7	29.99	761.7	79	26.1	69	Calm	0	0	.....	8c	0	Calm	.....	0	0	Cloudy	
Punta Rassa, Florida	29.94	760.5	29.96	761.0	77	25.0	86	N	7	3.1	.....	0	0	.....	.....	0.04	1.0	Clear	
Red Bluff, California	29.63	752.6	29.98	761.5	63	17.2	42	NW	6	2.7	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.79	756.7	30.00	762.0	81	27.2	70	N	1	0.4	.....	10k	0	N	.....	0	0	Cloudy	
Rochester, New York	29.11	739.4	29.70	754.4	63	17.2	94	NW	9	4.0	.....	.....	10s	.....	W	1.62	41.1	Cloudy	
Roseburg, Oregon	29.58	751.3	30.16	766.1	49	9.4	93	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sacramento, California	29.89	759.2	29.97	761.2	60	15.6	65	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.38	746.2	29.93	760.2	71	21.7	85	N	16	7.2	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
St. Marks, Florida	29.98	761.5	30.00	762.0	70	21.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.31	744.5	30.13	765.3	55	12.8	73	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.76	654.3	30.09	764.3	63	17.2	57	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.30	744.2	29.86	758.4	77	25.0	91	Calm	0	0	.....	5cs	0	E	.....	0	0	Fair	
San Diego, California	30.00	762.0	30.07	763.8	64	17.8	83	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	
Sandusky, Ohio	29.24	742.7	29.89	759.2	66	18.9	69	N	22	9.8	.....	0	1ks	.....	NE	Inap.	Inap.	Clear	
Sandy Hook, New Jersey	29.68	753.9	29.71	754.6	70	21.1	90	W	20	8.9	.....	.....	10s	.....	W	0	0	Cloudy	
San Francisco, California	29.96	761.0	30.02	762.5	54	12.2	97	SW	10	4.5	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.47	596.1	30.01	762.2	61	16.1	66	E	3	1.3	.....	0	5s	.....	Calm	0.03	0.8	Fair	
Savannah, Georgia	29.90	759.4	29.99	761.7	75	23.9	81	N	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	80	26.7	82	SW	2	0.9	.....	1c	0	Calm	.....	0	0	Clear	
Silver City, New Mexico	24.40	619.8	.....	.....	61	16.1	88	Calm	0	0	.....	0	0	.....	.....	0.05	1.3	Clear	
Smithville, North Carolina	29.92	760.0	29.96	761.0	70	21.1	85	NW	3	1.3	.....	2c	0	NE	.....	0	0	Fair	
Springfield, Massachusetts	29.48	748.8	29.60	751.8	65	18.3	89	S	6	2.7	.....	.....	10s	.....	S	0.29	7.4	Cloudy	
Stockton, Texas	26.98	685.3	29.98	761.5	72	22.2	38	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.60	751.8	29.66	753.4	60	15.6	100	SW	18	8.0	.....	.....	10n	.....	SW	0.15	3.8	Light rain	
Toledo, Ohio	29.22	742.2	29.86	758.4	64	17.8	63	N	10	4.5	.....	0	0	.....	.....	0.02	0.5	Clear	
Tucson, Arizona	27.29	693.2	29.85	758.2	78	25.6	69	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Tybee Island, Georgia	29.96	761.0	29.99	761.7	76	24.4	77	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.68	753.9	.....	.....	65	18.3	63	NW	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	47	8.3	92	NW	.....	.....	2	.....	10s	.....	NW	0.09	2.3	Cloudy	
Uvalde, Texas	29.08	738.6	29.87	758.7	77	25.0	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.83	757.7	29.98	761.5	78	25.6	86	SW	6	2.7	.....	Haze	0	Calm	.....	0	0	Clear	
Virginia City, Montana	24.40	619.8	29.88	758.9	60	15.6	65	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.61	752.1	29.98	761.5	62	16.7	67	Calm	0	0	.....	.....	8s	.....	Calm	0	0	Cloudy	
Washington, D. C	29.65	753.1	29.76	755.9	70	21.1	80	SW	10	4.5	.....	5ck	5ks	SW	SW	0	0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	72	22.2	95	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.87	758.7	29.95	760.7	71	21.7	80	W	4	1.8	.....	5c	0	N	.....	0	0	Fair	
Winnemucca, Nevada	25.74	653.8	30.10	764.5	52	11.1	35	S	6	2.7	.....	2k	0	S	.....	0	0	Fair	
Wood's Holl, Mass	29.69	754.1	29.74	755.4	67	19.4	90	SW	10	4.5	.....	.....	10s	.....	SW	Inap	Inap.	Cloudy	
Yankton, Dakota	28.94	735.1	30.24	768.1	50	10.0	85	NW	1	0.4	.....	2cs	0	NW	.....	0.08	2.0	Fair	
Yuma, Arizona	29.74	755.4	29.90	759.4	72	22.2	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.86	758.4	29.91	759.7	48.0	8.9	92	NW	11	4.9	.....	4k	3s	NW	NW	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.93	760.2	29.95	760.7	81	27.2	78	Calm	0	0	.....	8c	0	Calm	.....	0	0	Cloudy	Chas. Hasselbrink.
Santiago de Cuba, W. I	29.94	760.5	29.97	761.2	82	27.8	83	Calm	0	0	.....	8c	8k	NW	SE	0	0	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	78	25.6	91	NE	2	0.9	.....	.....	8n	.....	.....	0	0	Covered	G. O. Gellich.
Kingston, Jamaica, W. I	30.14	765.5	30.15	765.8	82	27.8	83	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	James Gall.
Navassa, W. I	29.91	759.7	29.99	761.7	84	28.9	.....	NE	9.6	4.3	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.00	762.0	30.00	762.0	81	27.2	78	E	.....	.....	2	0	8s	.....	.....	0	0	Clear	C. J. Hering
Medellin, Colombia, S. A	25.26	641.6	.....	.....	70.0	21.1	76	NE	2	0.9	.....	3k	3ks	.....	.....	Inap.	Inap.	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo; for Batavia, the barometer reduced to freezing but not to sea-level. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,560 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4 m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde, 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.15	765.8	79	26.1	79	26.1	86	N	2	0.9	.....	.....	2	.....	SE	0	0	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	29.95‡	760.7‡	.....	.....	63	17.2	89	SW	2	0.9	.....	.....	10	.....	.....	0.1	3.	.....	.....	Cloudy.....	
Naval Hospital, Yokohama, Japan	29.92*	760.0*	79.4	26.3	78 1	25.6	95	SE	.....	.....	2	.....	4ks	.....	SE	0.23	5.8	.....	.....	Threatening	
Adams. S. 21° 15′, W. 177° 20′	30.13	765.3	74	23.3	72	22.2	100	ENE	.....	.....	1	.....	2	.....	E	.....	.....	Long	S;E	Pleasant.....	
Alliance, Villafranca, France	29.66‡	753.4‡	.....	.....	80	26.7	44	E	.....	.....	0–1	.....	9	.....	E	.....	.....	.....	.....	Hazy.....	
Ashuelot. Yokohoma, Japan	30.00	762.0	82	27.8	79	26.1	100	E	.....	.....	2	.....	2	.....	E	.....	.....	Smooth	.....	Cloudy.....	
Alaska. S. 40° 29′, W. 58° 23′	30.75	781.0	51	10.6	41	5.0	58	S	.....	.....	4	.....	8	.....	N	0.08	2.0	Long	S	D. clouds.....	
Canonicus, New Orleans, La	30.03	762.7	56	13.3	80	26.7	87	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.	29.66‡	753.4‡	.....	.....	71	21.7	80	SW	11	4.9	.....	.....	10	.....	W	0	0	.....	.....	Hazy.....	
Constitution, Havre, France	29.58‡	751.3‡	.....	.....	66	18.9	84	SW	.....	.....	2	.....	7	.....	Calm	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	29.81‡	757.2‡	.....	.....	76	24.4	73	NE	.....	.....	2	.....	5	.....	NE	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va.	29.98	761.5	72	22.2	70	21.1	95	S	12	5.4	.....	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Gettysburg Toulon, France	29.75‡	755.6‡	.....	.....	75	23.9	86	WNW	.....	.....	3–5	.....	2	.....	NW	0	0	.....	.....	Fair.....	
Hartford, Rio de Janeiro, Brazil	30.18	766.6	.....	.....	72	22.2	85	NNW	6.0	2.7	.....	.....	2	.....	.....	0	0	.....	.....	Hazy.....	
Marion, Port Mahon, Minorca Balearic I'ds,	29.88	758.9	81	27.2	83	28.3	67	SW	.....	.....	2	.....	2	.....	SW	0	0	Smooth	.....	Clear.....	
Michigan, Lake Michigan	29.58	751.3	74	23.3	68	20.0	60	NE	.....	.....	5	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.91‡	759.7‡	.....	.....	80	26.7	87	ESE	.....	.....	2	.....	8	.....	E	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.29	769.4	81	27.2	79	26.1	82	SE	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Clear.....	
Onward, Callao, Peru	30.16†	766.1†	.....	.....	62	16.7	83	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	72	22.2	85	N	.....	.....	1	.....	8	.....	N	0	0	.....	.....	Cloudy.....	
Palos, Tientsin, China	29.92	760.0	77	25.0	74	23 3	76	S	.....	.....	2	.....	10	.....	S	.....	.....	.....	.....	Raining.....	
Plymouth, New York, N. Y.	29.96	761.0	70	21.1	70	21.1	85	SW	.....	.....	3	.....	10	.....	SW	.....	.....	.....	.....	Cloudy.....	
Ranger. Hong-Kong, China	30.02	762.5	85	29.4	85	29.4	88	Calm	.....	.....	0	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Rio Bravo. Brownsville, Texas	29.93	760.2	77	25.0	77	25.0	95	Calm	.....	.....	.....	.....	2	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	29.77‡	756.1‡	.....	.....	70	21.1	75	SW	.....	.....	1	.....	10	.....	NW	0	0	.....	.....	Overcast.....	
St. Louis, League Island, Pa	29.72	754.9	72	22.2	70	21.1	85	SW	12	5.4	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	29.66	753.4	66	18.9	66	18.9	75	W	.....	.....	1	.....	5	.....	W	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass.	29.64‡	752.8‡	.....	.....	65	18.3	100	SW	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy.....	
Trenton, Cherbourg, France	29.54‡	750.3‡	.....	.....	67	19.4	84	W	.....	.....	3	.....	9	.....	W	0.5	13.	.....	.....	Cloudy.....	
Tuscarora. N. 22° 33′, W. 108° 17′	29.76	755.9	82	27.8	82	27.8	83	NW	.....	.....	1	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia. Villafranca, France	29.66‡	753.4‡	.....	.....	81	27.2	74	ESE	.....	.....	2	.....	5	.....	E	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass	29.71‡	754.6‡	.....	.....	65	18.3	94	SW	11	4.9	.....	.....	10	.....	SW	0.11	2.8	.....	.....	Heavy rain..	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. * It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES,

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level. Inches.	Barometer reduced to sea-level. Millimeters.	Temperature of the air. Fahrenheit.	Temperature of the air. Centigrade.	Relative humidity. Per cent.	Wind. Direction. From	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er. 0—10.	Clouds. Amount. Low'r. 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
S. S. Alaska																			
S. S. China, San Francisco, Cal.		30.14?*	765.5?*	63	17.2	100	NW			2		1		NW	0			Fine	Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 24° 33′, E. 119° 22′		29.93†	760.2†	80	26.7	96	NE	9	4.0			10		NE	0	Smooth		D. clouds	Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Esquimault, B. C.		30.07†	763.8†	58	14.4	88	Calm			0		0			0			Hazy	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the cooperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

NAMES OF VESSELS.	True course toward—	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Low'r 0—10.	Upper from—	Lower from—	Rain-fall	Sea-swell character	Sea-swell direction from—	Weather.	Observer.
S. S. Adriatic, N. 47° 27′, W. 41° 44′		30.00*	762.0*	58	14.4	94	N			4		10		NW		Slight	W	Showery	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Mersey River		29.39*	746.5*	64	17.8	73	Calm			0					0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 40° 57′, W. 67° 36′		29.79†	756.7†	65	18.3	89	SE			3		2		S	0			Misty	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

NAMES OF VESSELS.	True course toward—	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Low'r 0—10.	Upper from—	Lower from—	Rain-fall	Sea-swell character	Sea-swell direction from—	Weather.	Observer.
S. S. Belgic, N. 28° 11′, E. 126° 15′		29.81*	757.2*	83	28.3	75	SW			3		k		NW		Smooth	NW	D clouds	Capt. L. Myer.
S. S. Gaelic, N. 38° 00′, W. 162° 00′		30.12†	765.0†	72	22.2	100	W			5		k		W	Blank	Head sea	W	Squally	Capt. W. H. Kidley.
S. S. Oceanic, N. 47° 50′, W. 164° 12′		29.19	741.4	51	10.6	93	WSW			6-7		10		WSW		6	W	Raining	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

NAMES OF VESSELS.	True course toward—	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	Wind from	Miles per hour.	Meters per second.	Force 0—10.	Up'er 0—10.	Low'r 0—10.	Upper from—	Lower from—	Rain-fall	Sea-swell character	Sea-swell direction from—	Weather.	Observer.
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 48° 57′, W. 28° 47′		29.57	751.1	58	14.4	??	NW			6		5		NW	1 hour	Rough	NW	Squally	Capt. T. H. Lamke.
S. S. Braunschweig, N. 44° 29′ W. 54° 53′		29.99	761.7	65	18.3	68	SSW			1		0			0	2	N	Fair	Capt. Undûtsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.		Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES. Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																		Captain Shackelford.	
S. S. Indiana, N. 51° 5′, W. 32°		29.63*	752.6*	56	13.3	69	NNW			5		9		SE	Light	Large	N	Cloudy	Captain Sargent.
S. S. Ohio, N. 41° 23′ W. 59° 39′		29.92	760.0	73	22.8	85	SE			2		5?		ESE	0	None		Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.59†	751.6†	67	19.4	100	ENE			1		3		SE	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																		Capt. Randle.	
S. S. Switzerland																		Capt. Jackson.	
S. S. Vaderland																		Capt. Nichols.	

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																		Capt. W. Richardson.	
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																		Capt. James Jorgensen.	
Schooner Florence																		O. T. Sherman.	

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 26, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.97	761.2	85.1	29.5	62	NNE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Kesxuche.
Algiers	.....	.....	29.92	759.9	84.9	29.4	62	NNE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Touriliere.
La Calle	.....	.....	29.97	761.1	80.8	27.1	80	ENE	.....	.....	5	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.00	762.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.09	764.2	89.6	32.0	.....	N	.....	.....	5	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.09	764.2	98.6	37.0	95	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Herbin.
Tebessa	.....	.....	30.02	762.4	87.8	31.0	20	NW	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.13	765.4	93.6	34.2	61	S	.....	.....	6	.....	8	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.11	764.7	93.9	34.4	25	E	.....	.....	2	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.01	762.2	101.3	38.5	24	SSE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.29	744.0	29.82	757.4	73.8	23.2	62	SW	.....	.....	3	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozu.
Cracow, I. R. Observatory	28.98	736.1	29.71	754.7	73.4	23.0	59	W	.....	.....	3	.....	3	.....	.....	0.008	0.2	.....	Dr. Wierzbiski
Eperies	28.88	733.5	29.71	754.7	74.1	23.4	64	Calm	.....	.....	0	.....	6c;s	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.55	725.2	29.75	755.6	71.1	21.7	76	S	.....	.....	2	.....	5	.....	.....	0.205	5.20	.....	Andreas Rospini.
Hermannstadt	28.34	719.9	29.72	755.0	62.8	17.1	84	WNW	.....	.....	3	.....	10	.....	.....	0.663	16.85	.....	Prof. Reissenberg
Kremtmünster	28.43	722.1	29.72	754.8	70.2	21.2	64	NE	.....	.....	1	.....	7c	.....	.....	0	0	.....	Prof. C. Wagner
Lemberg	28.74	730.0	29.69	754.1	68.0	20.0	74	SW	.....	.....	2	.....	8	.....	.....	0.012	0.3	.....	Dr. T. Stanecki.
Pola	29.76	755.8	29.86	758.5	77.7	25.4	63	WSW	.....	.....	1	.....	5ck	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.32	744.7	29.76	756.0	71.6	22.0	64	W	.....	.....	3	.....	9	.....	.....	0.063	1.6	Raining	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.78	756.5	29.89	759.1	79.9	26.6	64	W	.....	.....	1	.....	4	.....	.....	0	0	Almost clear	P. Busin.
Vienna	29.08	738.6	29.76	756.0	72.7	22.6	61	S	.....	.....	1	.....	9	.....	.....	0	0	.....	I. R. Central Met. Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.10	713.8	29.56	750.7	64.0	17.8	86	WSW	.....	.....	4	.....	10	.....	.....	0.409	10.4	.....	Prof. M. Passau.
Brussels	29.30	744.1	29.49	749.0	64.9	18.3	89	WSW	.....	.....	2	.....	10	.....	W	0.850	21.60	.....	Royal Observatory
Furnes	29.50	749.4	29.53	750.0	66.6	19.2	82	S	.....	.....	0	.....	10	.....	.....	0.764	19.4	.....	M. E. de Cae.
Maeseyck	29.42	747.3	29.55	750.5	64.4	18.0	96	S	.....	.....	2	.....	10	.....	.....	0.043	1.1	Raining	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

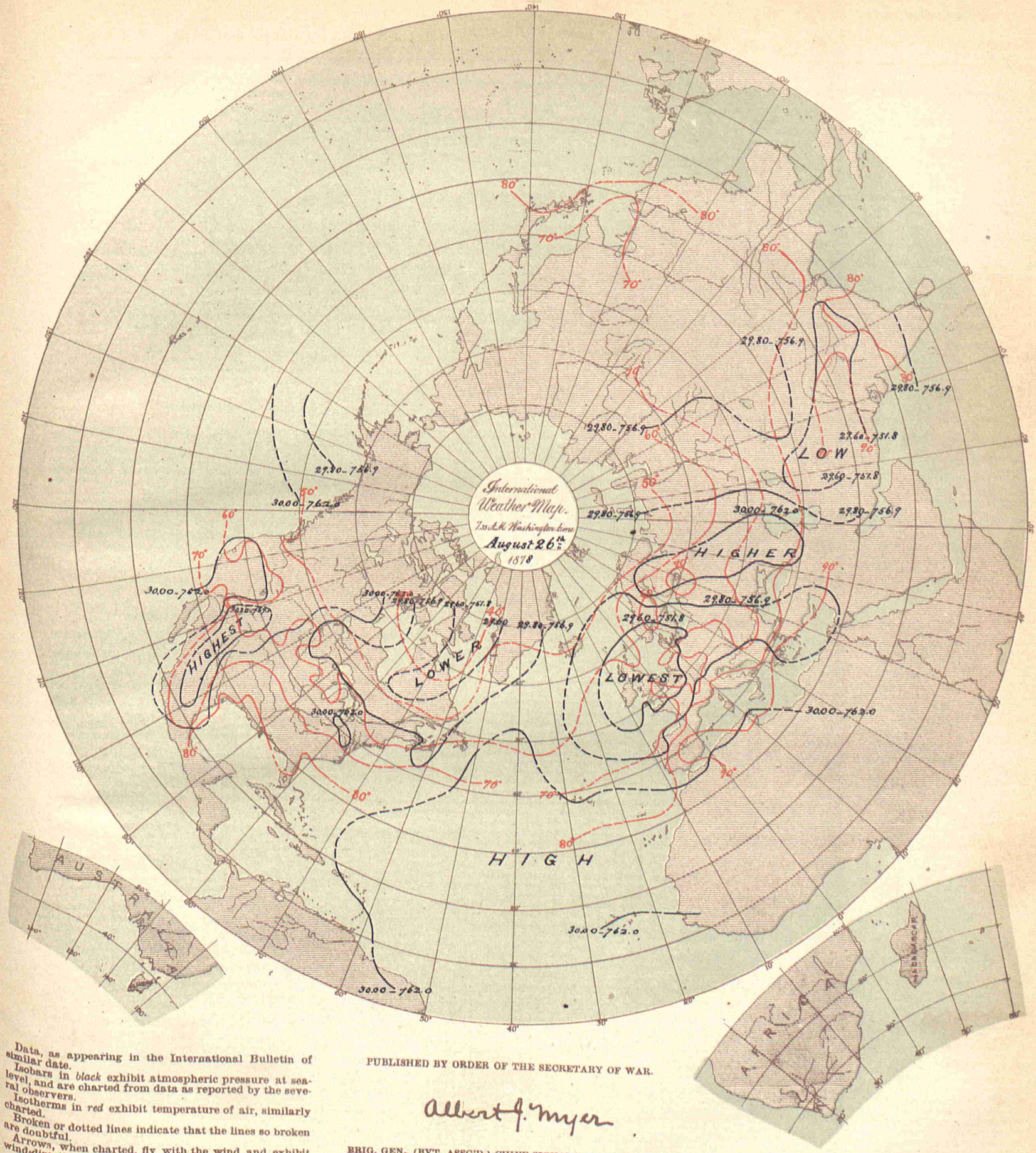
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.37	746.0	29.46	748.3	59.4	15.2	.....	NE	3	1.3	.....	.....	9	.....	.....	0.665	1.65	Overcast.. ...	W. Boswell.
Ardrossan	29.45	748.0	29.46	748.3	65	18.3	.....	WSW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	29.46	748.3	64.3	17.9	.....	SSE	9	4.0	.....	.....	10	.....	.....	.....	.....	Overcast.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.48	748.8	68.6	20.3	.....	NW	6	2.7	.....	.....	3	.....	.....	.....	.....	Blue sky.....	John Hartnup.
Birr Castle, (Parsonstown)	29.23	742.4	29.42	747.3	70.5	21.4	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.10	739.1	29.50	749.3	66.6	19.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.....	J. McLandsborough.
Bridgetown, (Barbados)	29.96	761.0	29.99	761.7	83	28.3	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.50	749.3	70.0	21.1	.....	SW	.....	.....	1	.....	7	.....	.....	.....	.....	D. clouds.....	H. Todd. [H. C.
Cardington	.....	.....	29.50	749.3	71.0	21.7	.....	W	.....	.....	0	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.37	746.0	29.50	749.3	68.2	20.1	.....	Calm	.....	.....	0	.....	3	.....	.....	.....	.....	Blue sky.. ...	Lt. W. G. Morris, R. E.
Dartmoor	28.18	715.8	29.61	752.1	60.0	15.6	.....	W	.....	.....	2	.....	8	.....	.....	.....	.....	Showery.....	Alexander Watt.
Donaghadee	29.45	748.0	29.48	748.8	63	17.2	.....	SE	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	J. Mac Gowan.
Dover	29.49	749.0	29.51	749.5	67	19.4	.....	E	.....	.....	1	.....	7	.....	.....	.....	.....	¾ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.47	748.5	73.8	23.2	.....	SW	4.8	2.1	.....	.....	3	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.32	744.7	29.54	750.3	63.7	17.6	.....	SSE	.....	.....	1	.....	10	.....	.....	.....	.....	Rain and fog	The Staff.
Fort Napier, (Natal)	27.96	710.2	30.25	768.3	63.1	17.3	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.76	755.9	29.99	761.7	79.5	26.4	.....	SW	.....	.....	1	.....	4	.....	.....	.....	.....	Drizzling.....	
Galway, Queen's College	.....	.....	29.38	746.2	68	20.0	.....	S	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.85	758.2	29.90	759.4	.....	.....	.....	NE	.....	.....	6	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.26	743.2	29.47	748.5	65.4	18.6	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	D. G. Maclean.
Great Yarmouth	29.50	749.3	29.50	749.3	66	18.9	.....	SE	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.32	744.7	29.49	749.0	70.6	21.4	.....	SE	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.31	744.5	29.53	750.0	63	17.2	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.63	752.6	69	20.6	.....	S	.....	.....	2	.....	3ck	.....	.....	0.04	1.0	Fine	M. P. Moyle.
Holyhead	29.45	748.0	29.50	749.3	67	19.4	.....	SSW	.....	.....	2	.....	5	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.28	743.7	29.56	750.8	63.9	17.7	.....	W	.....	.....	6	.....	10	.....	.....	Blank	Blank	Overcast	J. Fisher.
Kew, Observatory	.....	.....	29.50	749.3	67.4	19.7	.....	SSW	3	1.3	.....	.....	.....	.....	.....	.....	.....	Hazy.....	The Staff.
Kingstown	29.45	748.0	29.48	748.8	66	18.9	.....	SSE	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.48	748.8	70.0	21.1	.....	NW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.86	758.4	29.93	760.2	84	28.9	.....	NW	.....	.....	1	.....	1ck	.....	.....	.....	.....	D. clouds.....	H. J. Becket, A. H. C.
Nairn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.92	760.0	85.0	29.4	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.31	744.5	29.49	749.0	77.4	25.2	.....	SSE	.....	.....	2	.....	3ks,k,c	.....	WSW	0.012	0.30	Blue sky.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.97	761.2	29.47	748.5	67.0	19.4	.....	WNW	.....	.....	1	.....	10	.....	.....	.....	.....	Hazy.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.49	749.0	69	20.6	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Hazy.....	H. E. Bellamy.
Plymouth	29.45	748.0	29.52	749.8	64.7	18.2	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Showery.....	John Merrifield.
Roche's Point	29.40	746.7	29.44	747.8	66	18.9	.....	SSW	.....	.....	4	.....	5	.....	.....	Blank	Blank	Cloudy.....	W. Kennedy.
Saint Ann's Head	29.34	745.2	29.50	749.3	66	18.9	.....	S	.....	.....	2	.....	8	.....	.....	.....	.....	Raining.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.52	749.8	58.8	14.9	.....	E	9	4.0	.....	.....	10	.....	.....	.....	.....	Misty.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.66	753.4	77.0	25.0	.....	NE	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy.....	Sergt. W. H. Lyne.
Sheffield	29.24	742.7	29.50	749.3	72.1	22.3	.....	S	.....	.....	1	.....	3	.....	.....	0	0	Blue sky.....	W. F. Cooper.
Silloth Rectory	29.47	748.5	29.50	749.3	72.2	22.3	56	SW	.....	.....	1	.....	0	.....	.....	0	0	Blue sky.. ..	C. Edith Redford.
Stonyhurst, Observatory	29.10	739.1	29.50	749.3	67.4	19.7	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.40	746.7	29.43	747.5	67	19.4	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M. S
Thurso	.....	.....	29.50	749.3	58	14.4	.....	E	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	John Trotter.
Truro, Royal Institution	.....	.....	29.55	750.6	72	22.2	.....	SW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.52	749.8	64.6	18.1	.....	SSW	16	7.2	.....	.....	7	.....	.....	.....	.....	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.94	760.5	62	16.7	53	W	.....	.....	2	.....	3k	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.93	760.2	30.12	765.1	73.4	23.0	69	E	17.0	7.6	.....	2	4	W	E	0	0	Squally.....	C. Meldrum.
Melbourne, Observatory	30.08	764.0	30.17	766.3	58.0	14.4	75	NE	12	5.4	.....	.....	0	.....	.....	0	0	Very fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 43° 35', W. °60 25'	4	.....	Gloomy.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith, N. 49° 10', W. 9° 40'	5	W	D. clouds.....	Capt. D. W. A. Qualle
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
.....	.....	.....	.....	

Note.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instru-m'tal error and tem-perature. Inches.	Barometer. Corrected for instru-m'tal error and tem-perature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.29	667.8	.....	.....	64.4	18.0	95	SE	.....	.....	1	9cs	.....	.....	.....	0	0	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.54	750.2	29.58	751.4	67.8	19.9	70	S	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....
Fanöe	29.50	749.2	29.52	749.7	66.0	18.9	84	SSW	.....	.....	4	.....	3	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.58	751.2	29.62	752.3	58.3	14.6	56	S	.....	.....	7	.....	6	.....	.....	.....	.....	Foggy	.....
Stykkisholm, (Iceland)	29.81	757.1	29.85	758.2	49.3	9.6	82	NE	.....	.....	7	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.61	752.2	29.65	753.1	55.4	13.0	89	NE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Vestervig	29.33	744.9	29.50	749.2	65.8	18.8	81	SSW	.....	.....	4	.....	4	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.06	738.2	29.61	752.2	68.7	20.4	80	SSW	.....	.....	4	.....	10	.....	.....	0.47	12.	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.78	756.4	29.86	758.4	85.1	29.5	49	WNW	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.08	738.5	29.61	752.0	70.3	21.3	82	SW	.....	.....	1	.....	10	.....	SW	0.232	5.9	Covered	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.26	743.3	29.53	750.1	74.3	23.5	59	W	.....	.....	2	.....	8	.....	WSW	0.207	5.25	Very cloudy	Frere Eugene Marie, Director.
Besançon	28.88	733.6	29.74	755.3	72.5	22.5	74	S	.....	.....	4	.....	2	.....	E	0.059	1.5	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.11	739.3	29.63	752.7	73.5	22.5	83	WSW	.....	.....	5	.....	10km	.....	SW	0.020	0.5	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.35	745.6	29.60	751.8	69.1	20.6	81	WSW	.....	.....	3	.....	9	.....	WSW	0.354	9.00	Foggy	The Staff.
Carcassonne, Normal School	29.41	747.1	29.80	756.9	88.2	31.2	44	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.07	738.3	29.62	752.3	72.1	22.3	98	S	.....	.....	2	.....	10	.....	N	0.874	22. 2	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.18	741.2	29.48	748.9	69.1	20.6	85	SW	.....	.....	1	.....	10	SW	SW	0.197	5.0	Raining	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.44	722.3	29.72	754.9	77.0	25.0	62	SW	.....	.....	2	.....	.....	.....	W	0.276	7.0	.....	Alluard, Director.
Commercy, Normal School	28.80	731.6	29.65	753.2	66.2	19	90	W	.....	.....	4	.....	10km	.....	W	.....	.....	Raining	Dr. Coulet, Director.
Commune de Grèasque*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.45	748.0	29.65	753.2	67.3	19.6	83	W	.....	.....	4	.....	10	.....	W	0.591	15.0	Covered	Monillot, Director.
Le Mans, Normal School	29.33	744.9	29.62	752.4	65.4	18.5	92	SW	.....	.....	1	.....	8	.....	SW	0.345	8.75	Very cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.92	734.6	29.80	757.0	69.8	21	85	SW	.....	.....	6	.....	5	.....	SW	0.142	3.60	Cloudy	Baudry, Director.
Lorient, Naval Observatory	29.58	751.3	29.68	753.8	66.2	19.0	87	WSW	.....	.....	5	.....	10	.....	SW	0.157	4.0	Covered	T. Carré, Director.
Mâcon, Normal School	29.77	756.2	29.89	757.0	68.4	20.2	96	SSE	.....	.....	1	.....	10	.....	.....	0.28	7.	Covered	M. Galzin, Director.
Mirecourt, Normal School	28.58	725.9	29.58	751.4	66.2	19	83	SSW	.....	.....	4	.....	10km	.....	SW	0.20	5.	Covered	M. Barbier, Director.
Nismes, Normal School	29.76	755.9	29.95	760.7	87.8	31	51	S	.....	.....	6	.....	5	.....	N	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.84	732.4	29.85	758.1	77.0	25	65	N	.....	.....	1	.....	.....	S	N	0	0	.....	M. Cantier.
Puy de Dome (Summit)	24.98	634.4	.....	.....	54.9	12.7	100	W	.....	.....	4	.....	.....	.....	.....	0.346	8.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.71	754.6	29.74	755.4	66.2	19.0	94	SW	.....	.....	3	.....	10	.....	SW	0.35	9.	Raining	M. Giguel, Director.
Rouen, Normal School	29.44	747.8	29.52	749.9	73.4	23.0	60	WSW	.....	.....	1	.....	8	.....	SW	0.177	4.5	Very cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.61	752.0	66.7	19.3	73	WSW	.....	.....	3	.....	10	.....	WSW	0.359	9.12	Covered	M. H. Hercouet.
Tarbes, Normal School	28.97?	735.9?	30.01?	762.2?	73.4	23	66	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	80.6	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.99	76.	.....	L'Abbé Marchesi.
Lyons	.....	.....	29.99	761.8	71.2	21.8	41	.....	.....	.....	.....	.....	7	.....	.....	0.102	2.6	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.86	758.5	81.3	27.4	61	SW	.....	.....	0–1	.....	3	.....	.....	0	0	.....	The Staff.
Mont-Louis	24.89	632.2	30.21	767.2	73.4	23.0	36	S	9.3	4.17	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.88	759.0	77.5	25.3	78	SW	.....	.....	2	.....	1	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.26	743.3	29.54	759.3	71.2	21.8	87	W	.....	.....	2	.....	10	.....	W	0.303	7.7	.....	Marié Davy, Director
Perpignan	.....	.....	29.83	757.6	80.2	26.8	70	E	7.4	3.33	.....	.....	0	.....	.....	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.61	574.3	.....	.....	59.5	15.3	.....	W	.....	.....	2	.....	2	.....	.....	0.094	2.4	Clear	Gen'l de Nansou y
Saint Maur, (near Paris)	29.38	746.3	29.55	750.5	69.3	20.7	95	WSW	.....	.....	2	.....	10	.....	WSW	0.331	8.4	Covered	E. Renou.
Toulouse, Observatory	29.13	739.8	29.84	758.0	84.9	29.4	41	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	The Staff.
Tours	29.48	748.8	29.68	753.8	68.5	20.3	81	W	.....	.....	4	.....	10	.....	W	0.453	11.5	.....	C. Marquet.
Versailles	.....	.....	29.55	750.6	73.8	23.2	65	W	.....	.....	1	.....	10	.....	.....	0.459	11.64	Lt. shower	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.99	761.8	30.02	762.4	68.9	20.5	97	Calm	0	0	.....	.....	10	.....	.....	0.142	3.6	Covered	Marc Dechevrens, S. J.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.79	731.3	29.63	752.7	65.5	18.6	75	SW			1		7	W		0.24	6.	Raining	Prof. Dr. Hoh.
Berlin	29.49	749.1	29.66	753.3	72.3	22.4	60	S			1		6			0	0		Prof. Arndt.
Breslau	29.22	742.3	29.75	755.6	73.6	23.1	64	WSW			2		3			0	0		Royal University Obs'y
Carlsruhe	29.23	742.4	29.63	752.7	68.0	20.0	82	SW			4		10			0.642	16.3		Albert Senz.
Cassel	29.04	737.7	29.65	753.0	65.1	18.4	86	SE			1		9	W		0.234	5.94		Dr. H. Möhl.
Crefeld	29.34	745.3	29.50	749.4	64.0	17.8	92	SE			4		10			0.16	4.	Raining	Director Lose.
Emden	29.44	747.8	29.48	748.8	75.2	24.0	81	S			1		5			0.362	9.2		Prof. Prestel.
Frankfort on the Main	29.29	744.0	29.65	753.0	64.0	17.8		S			2		10			0.276	7.0	Raining	Physical Society.
Friedrichshafen	28.35	720.2	29.74	755.4	66.9	19.4	76	SSE			3		10		SW	0.630	16.0		M. Wilhelm.
Hamburg	29.51	749.5	29.58	751.2	70.2	21.2	69	SSW			3		3k			0.004	0.1	Clear	Captain F. Hegemann.
Kiel	29.55	750.6	29.57	751.0	70.0	21.1	63	SW			2		7			0.088	2.23		Prof. G. Karsten.
Königsberg, (Prussia)	29.58	751.4	29.67	753.5	60.4	15.8	96	SE			2		10			0.516	13.1		Prof. E. Luther.
Köslin			29.60	751.9	68.5	20.3		NW			4		3			0.228	5.8		H. Müller.
Leipsic, Observatory	29.27	743.4	29.67	753.6	73.4	23.0	56	SSW			3		9			0	0		Prof. Bruhns.
Memel, Naval School	29.67	753.7	29.72	754.9	63.1	17.3	73	SE			5		10n					Light rain	Reinbrecht and Skalweit.
Neufahrwasser	29.65	753.1	29.67	753.5	66.7	19.3	78	NNE			2		8	WSW		0.382	9.7		A. Lothes.
Posen	29.44	747.8	29.72	754.8	74.3	23.5	49	NW			2		6			0	0		Dr. Magener.
Strassburg (in Alsace)	29.13	740.0	29.66	753.4	69.4	20.8	52	SW			4		10	SW		0.131	3.33	Raining	Astronomical Observatory.
Stuttgart	28.76	730.4	29.66	753.3	68.9	20.5	70	SW			1		10			0.118	3.0	Light rain	Prof. Schoder.
Treves, (Trier)	29.07	738.4	29.59	751.5	68.7	20.4	82	SW			5		10			0.578	14.67		Prof. Flesch.
Weissenburg, (Bavaria)	28.26	717.9	29.71	754.7	63.7	17.6	76	WSW	3.8	1.7			10		W	0.024	0.6	Covered	Dr. Von Bebber.
Wustrow, Naval School	29.60	751.9	29.64	752.9	66.4	19.1	80	W			2		3			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.34	745.2	29.71	754.5	94.1	34.5		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.25	743.0	29.72	755.0	85.7	29.8	76	SW					8	NNE		Blank	Blank	D. clouds	
Bombay	29.72	754.9	29.76	755.8	84.3	29.1	81	WSW	12	5.4			10	S	SW	0	0	Overcast	
Poona	27.75	704.7	29.73	755.1	81.4	27.4	71	WSW					9		WSW	0	0	D. clouds	
Lahore	28.79	731.3	29.51	749.5	92.1	33.4	65	E	2.3	1.0			2			0	0	Blue sky	
Belgaum	27.27	692.5	29.80	757.0	75.2	24.0	88	W	9	4.0			7	E	W	0	0	D. clouds	
Roorkee	28.62	727.0	29.50	749.2	88.8	31.6	71	NW	3.0	1.3			4			0.55	14.0		
Agra	29.02	737.0	29.57	751.0	89.7	32.1	65	S					8			0	0		
Nagpur	28.65	727.7	29.68	754.0	82.3	27.9	84	SSW	3.5	1.6			9		NE	0	0	D. clouds	
Lucknow																			
Allahabad	29.27	743.4	29.58	751.2	82.4	28.0	85	Calm	2.9	1.3			10			0.13	3.3	Overcast	
Patna	29.38	746.1	29.55	750.7	86.0	30.0	92	E	1.4	0.6			10	E	E	0.13	3.3	Overcast	
Hazaribagh	27.63	701.8	29.63	752.5	78.3	25.7	88	S	8.8	3.9			10			0.32	8.1	Thunder-storm	
Cuttack	29.58	751.3	29.66	753.4	86.9	30.5	74	S	0.4	0.2			4			0	0	D. clouds	
Calcutta (Alipore)	29.67	753.6	29.69	754.1	84.9	29.4	85	S	10	4.5			10	S		0	0	Thunder	
Goalpara	29.27	743.5	29.66	753.4	76.8	24.9	98	E	4.3	1.9			10			9.07	230.4	Overcast	
Chittagong	29.67	753.7	29.77	756.0	81.9	27.7	86	SSE	7.8	3.5			5			0	0	Misty	
Sibsagar	29.34	745.2	29.67	753.7	77.1	25.1	95	SW	2.3	1.0			10			0.85	21.6	Drizzling	
Jubbulpore	28.22	716.8	29.57	751.1	79.8	26.6	85	NW	6.4	2.9			9			0.57	14.5	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.47	748.6	29.87	758.6	73.8	23.2	69	SE	3.8	1.7	.....	.....	7	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.76	755.8	29.86	758.5	78.3	25.7	56	SE	4.3	1.9	.....	.....	5	NW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.65	753.2	29.84	757.9	79.9	26.6	56	S	2.5	1.1	.....	.....	2	W	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milan	29.34	745.3	29.84	758.0	77.7	25.4	56	E	.....	.....	1	.....	8	WNW	.....	0	0	.....	Prof. Trionfini Carlo.
Moncalieri	28.97	735.8	29.84	757.9	77.?	25.1	55	NNW	2.5	1.1	.....	.....	6	SE	.....	0	0	.....	Prof. Schiaparelli.
Mondovi	27.98	710.8	29.82	757.4	74.8	23.8	53	E	.....	.....	4	.....	4	.....	.....	0	0	.....	Prof. P. F. Denza.
Porto Maurizio	29.69	754.1	29.90	759.5	78.6	25.9	60	E	.....	.....	2	.....	2	.....	.....	0	0	.....	Prof. D. C. Bruno.
Genoa	29.72	754.9	29.88	759.0	77.4	25.2	63	SE	.....	.....	4	.....	2	SE	.....	0	0	.....	Prof. L. Vassallo.
Parma	29.55	750.6	29.86	758.4	81.9	27.7	38	WNW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. G. M. Garibaldi.
Florence	29.66	753.3	29.90	759.5	76.6	24.8	56	SW	.....	.....	4	.....	10	.....	.....	0	0	.....	Prof. P. Pigorini.
Leghorn	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cav. F. Meucci.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. P. Monte.
Urbino	28.39	721.2	29.88	758.9	76.3	24.6	47	SW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Luigi Guidi.
Rome	29.75	755.6	29.92	759.9	82.9	28.3	38	W	15.0	6.7	.....	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Naples, O. U.	29.74	755.3	29.93	760.2	81.3	27.4	44	SSW	.....	.....	4	.....	2	NE	.....	0	0	.....	Prof. P. G. S. Ferrari.
Lecce	29.65	753.1	29.90	759.4	80.2	26.8	43	ENE	17.4	7.8	.....	.....	0	.....	.....	0.043	1.1	.....	Prof. L. Palmieri.
Cagliari	29.74	755.3	29.93	760.1	82.6	28.1	70	W	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cosenza	29.06	738.0	29.90	759.4	81.3	27.4	66	SW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Palermo	29.69	754.2	29.94	760.5	81.3	27.4	45	WNW	15.4	6.9	.....	.....	1	.....	.....	0	0	.....	Prof. F. D. Conti.
Syracuse	29.90	759.4	29.98	761.5	81.5	27.5	51	SE	.....	.....	4	.....	3	SW	.....	0	0	.....	Prof. G. Cacciatore.
SUB-SERIES.																			Prof. V. Giuliano.
Naples, S. R.	29.40	746.8	29.96	760.9	78.8	26.0	49	SSW	0	0	.....	.....	3	W	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.73	755.1	29.92	759.9	78.7	23.2	81	NE	4.5	2.0	.....	.....	0	.....	.....	0	0	Clear	I. Arai, Director.
Tokei (Yeddo) Observatory	29.91	759.7	29.98	761.5	78.1	25.6	89	SSE	4.4	0.1	.....	0	0	.....	.....	2.325	59.05	Fair	
Tokei (Yeddo) University	29.88	758.9	29.97	761.3	78	25.6	95	S	5	2.2	.....	3cs	4s	.....	.....	0.33	8.4	Showery	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	63.4	17.4	82	N	0.9	0.4	.....	5ks	0	.....	.....	0.34	8.8	Fair	L. Castillo, A. E.
Guadalajara	25.08	637.1	30.03	762.8	59.0	15.0	90	NE	0.9	0.4	.....	0	9n	.....	E	0	0	Cloudy	Prof. L. Perez.
Guanajuato	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. V. Fernandez
Leon	24.47	621.5	30.01	762.2	62.2	16.8	90	S	0.9	0.4	.....	0	10n	.....	.....	0.39	10.0	Covered	Prof. M. Leal.
Mexico	23.12	587.2	30.09	764.2	58.6	14.8	83	Calm	0	0	.....	0	10k	.....	S	0.10	2.7	Covered	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	60.8	16.0	92	W	0.9	0.4	.....	0	3ks	.....	.....	1.05	26.7	Clear	M. V. de Leon, M. E.
Puebla	23.37	593.5	30.02	762.4	55.9	13.3	89	E	2.2	1.0	.....	0	4kn	.....	.....	0.22	5.6	½ cloudy	Prof. B. Gonzalez.
Tlacotalpan	29.91	759.8	29.92	760.1	80.6	27.0	84	S	1.8	0.8	.....	0	0	.....	.....	0	0	Fair	Prof. F. R. Bayly.
San Luis Potosi	24.27	615.9	30.19	766.7	61.0	16.1	55	E	0.9	0.4	.....	0	0	.....	.....	0	0	Hazy	G. Barroeta, M. D.
Vera-Cruz	29.93	760.3	29.96	761.0	79.7	26.5	84	SW	.....	.....	.....	1c	2sk	.....	.....	0	0	Misty	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	78	E	5.1	2.3	.....	0	10	.....	.....	0.20	5.0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.32	592.5	30.07	763.9	54.1	12.3	87	NE	0.2	0.1	.....	0	2	.....	S	0.12	3.0	Clear	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.40	721.3	30.04	763.0	76.1	24.5	85	E	0.9	0.4	.....	0	10	.....	NE	0.43	10.8	Covered	R. Banda, C. E.
San Juan E. Michapam	29.72	754.8	29.86	758.5	78.8	26.0	.....	Calm	0	0	.....	1c	0	SW	.....	0	0	Clear	Antonio Guerra y Guerra.
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NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.51	749.6	29.51	749.6	69.4	20.8	.....	SE	.....	.....	2	.....	.....	.....	.....	0.138	3.5	.....	
Groningen	29.48	748.9	29.54	750.3	67.3	19.6	.....	S	.....	.....	2	.....	.....	.....	.....	0	0	.....	
Helder	29.50	749.4	29.50	749.4	67.1	19.5	.....	SW	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.50	749.2	29.50	749.2	71.6	22.0	82	SSE	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.48	748.9	29.53	750.1	65.5	18.6	78	SSE	.....	.....	2	.....	10	.....	.....	0	0	Dull	H. v. d. Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.46	748.3	29.52	749.7	65.5	18.6	57	E	10.3	4.6	.....	.....	4	.....	.....	0.307	7.8	.....	
Brönö	29.67	753.7	29.71	754.7	69.6	20.9	42	SE	18	8	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.45	748.0	29.59	751.6	59.2	15.1	90	ENE	16	7	.....	.....	10	.....	.....	.....	.....	Raining.....	
Tromsö	29.87	758.6	29.91	759.7	49.3	9.6	61	NNE	13	6	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.81	757.1	29.99	761.8	73.8	23.2	76	WNW	8.1	3.6	.....	.....	2	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.97	735.7	29.93	760.3	86.0	30.0	40	WSW	6.9	3.1	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.92	760.0	30.01	762.2	79.2	26.2	74	SW	8.7	3.9	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.64	752.9	29.99	761.8	74.1	23.4	74	SW	18.6	8.3	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.95	760.6	30.02	762.4	77.0	25.0	67	W	4.9	2.2	.....	.....	3	.....	.....	0.669	17.0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 9 h. 6 m., p. m.

Naval Series. Vessels.															Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 38′, W. 16° 55′	.....	.....	29.99	761.7	80.1	26.7	.....	W	.....	.....	2	.....	2	.....	NNW	2	.....	D. clouds.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	762.9	71.6	22.0	.....	W	.....	.....	3	.....	2	.....	W	2	W	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.94	760.4	86.0	30.0	.....	SW	.....	.....	1	.....	8	.....	.....	2	SW	D. clouds..	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.95	760.8	72.1	22.3	.....	W	.....	.....	0	.....	10	.....	E	1	.....	Blue sky	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.29	743.9	29.69	754.2	68.5	20.3	72	WNW	7	3	.....	.....	4k	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.43	747.5	29.84	757.8	64.6	18.1	60	SE	16	7	.....	.....	10	.....	.....	.....	.....	Heavy clouds ...	Astronomical Obs.
Dorpat	29.74	755.3	29.97	761.3	71.4	21.9	54	ESE	9	4	.....	.....	6k;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	30.02	762.4	30.03	762.8	72.0	22.2	50	SW	7	3	.....	.....	4km	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.28	743.7	29.89	759.3	66.9	19.4	57	SE	13	6	.....	.....	9k;ks;cs	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.80	756.8	29.87	758.6	76.3	24.6	47	ESE	22	10	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.85	758.1	29.87	758.6	77.5	25.3	75	E	13	6	.....	.....	2	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.58	751.2	30.11	764.7	66.7	19.3	55	S	7	3	.....	.....	4ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.80	756.9	30.00	761.9	78.8	26.0	30	ESE	9	4	.....	.....	2	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.94	760.5	29.96	761.0	48.9	9.4	70	W	18	8	.....	.....	8k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.71	729.3	30.08	764.1	73.0	22.8	54	SE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.18	766.5	30.10	764.4	73.9	23.3	32	NE	7	3	.....	.....	3k	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.67	753.6	29.93	760.3	59.7	15.4	82	NW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischet.
Ekaterinburg	28.77	730.8	29.70	754.3	57.7	14.3	49	NW	11	5	.....	.....	4ck;k	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.32	744.6	29.54	750.2	74.1	23.4	33	NNE	22	10	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.22	716.7	29.82	757.3	83.1	28.4	55	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.25	742.9	29.74	755.5	74.3	23.5	35	NE	0	0	.....	.....	2	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.67	753.5	29.94	760.5	72.3	22.4	66	E	2	1	.....	.....	9	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.78	756.4	29.92	760.0	74.1	23.4	86	Calm	0	0	.....	.....	6k	.....	.....	.....	.....	Lightning...	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.74	755.3	29.84	757.8	86.0	30	60	SW	3.6	1.61	.....	.....	2c	.....	.....	0	0	Clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.88	758.9	29.93	760.3	74.3	23.5	72	NW	5.4	2.41	.....	1	9	SW	.....	0	0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.02	686.4	.....	.....	79.9	26.6	59	SW	12.1	5.43	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez
Madrid, Royal Observatory	27.75	704.9	29.83	757.7	89.8	32.1	36	SW	17.9	8.00	.....	0	0	.....	.....	0	0	Clear	The Staff.
Murcia, Met. Obs'y	29.75	755 7	29.89	759.3	99.5	37.5	28	NW	4.2	1.89	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.88	733.6	29.75	755.7	68.0	20.0	95	SSW	21.1	9.44	.....	.....	10	.....	.....	1.839	46.7	Raining	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I	29.87	758.8	29.94	760.4	79.2	26.2	87	SSW	5.8	2.6	.....	7ck	0	WSW	.....	0.055	1.4	Fair	Benito Vines, S. J
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.83	757.7	29.92	760.1	86.4	30.2	46	W	11.5	5.1	.....	0	0	.....	.....	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W.I.	29.91	759.7	30.00	762.0	81.7	27.6	89	SE	0	0	.....	2s	1k	SE	SE	0	0	Clear	Leonardo de Tejeda, Ch'f Eng'r

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	30.03	762 8	30.07	763.8	56.5	13.6	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	29.96	760.9	30.01	762.2	65.5	18.6	39	E	.....	.....	2	.....	4	.....	.....	0	0	.....	
Hernosand	29.86	758.4	29.91	759.7	58.3	14.6	83	NE	.....	.....	4	.....	4	.....	.....	0	0	.....	
Stockholm	29.58	751.4	29.76	755.9	65.7	18.7	68	ESE	.....	.....	6	.....	8	.....	.....	0.228	5.8	.....	
Wisby	29.63	752.6	29.69	754.1	61.5	16.4	87	SSE	.....	.....	6	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.66	753.4	29.74	755.3	67.5	19.7	64	ESE	13.7	6.1	.....	.....	8	.....	SSE	0.364	9.26	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.45	722.7	29.84	757.9	67.6	19.8	77	NNW	.....	.....	2	.....	10	.....	.....	0.008	0.2	Covered	The Observatory.
Zurich	28.20	716.3	29.81	757.1	63.1	17.3	86	SE	.....	.....	1	.....	9	.....	.....	0.866	22.0	Bright	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —4.9 mm.; Thermometer, —1.0 cent.; Relative Humidity, +20 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.72	755.0	75.6	24.2	70	NE	9	4.0	.....	.....	10	.....	NE	0	0	.....	The Observatory.
Valona	.....	.....	30.07	763.6	79.3	26.3	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.64	752.8	29.73	755.2	90.5	32.5	73	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.68	753.9	29.75	755.6	53.9	12.2	86	SW	8	3.6	.....	3c	0	NW	.....	0	0	Fair	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.3	29.87	758.7	61	16.1	.....	SW	3	1.3	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.74	755.4	29.80	756.9	53	11.7	80	SW	5	2.2	.....	0	0	.....	.....	0.71	18.0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.76	755.9	29.80	756.9	57	13.9	73	NW	6	2.7	.....	0	0	.....	.....	0.452	11.48	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.63	752.6	29.82	757.4	58.6	14.8	74	W	.....	.....	2	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.56	750.8	29.72	754.9	52	11.1	81	W	.....	.....	1	.....	.....	.....	.....	1.37	34.8	Fine	H. A. Johnson.
Esquimault, B. C	30.04	763.0	30.09	764.3	53.2	11.8	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.61	752.1	29.63	752.6	57	13.9	63	S	32	14.3	.....	2ck	2s	W	W	0.09	2.3	Fair	J. McWilliams.
Fredericton, N. B	29.81	757.2	29.87	758.7	54.2	12.3	80	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	28.91	734.3	29.72	754.9	54	12.2	93	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.89	733.8	29.98	761.5	52	11.1	100	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.65	753.1	29.78	756.4	59	15.0	82	NW	7	3.1	.....	0	2ks	.....	NW	0.363	9.22	Fair	F. Allison, M. A.
Hamilton, Ontario	29.62	752.3	29.99	761.7	56.7	13.7	72	NW	.....	.....	2	1c	0	NW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.89	759.2	29.91	759.7	63	17.2	75	SW	.....	.....	3	.....	10	.....	.....	0	0	Overcast	E. Weedon.
*Kingston, Ontario	29.59	751.6	29.91	759.7	61	16.1	82	SW	8	3.6	.....	Haze	Sm'e	SW	SW	0	0	Smoke and haze.	S. Woods, M. A.
Little Glace Bay, N. S	29.72	754.9	29.76	755.9	59.0	15.0	.....	NE	8	3.6	.....	6k	0	E	.....	0.28	7.1	Fair	C. H. Rigby.
*Montreal, Quebec	29.62	752.3	29.81	757.2	58	14.4	59	S	16	7.2	.....	2k	2ks	.....	NW	0	0	Fair	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.18	741.2	29.85	758.2	66	18.9	87	SW	17	7.6	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.18	741.2	29.91	759.7	62.7	17.1	69	SW	.....	.....	1	0	0	.....	.....	0	0	Bright	J. F. Jeffers, B. A.
Port Dover, Ontario	29.30	744.2	29.99	761.7	51	10.6	86	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.72	754.9	29.76	755.9	59.7	15.4	.....	NW	4	1.8	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.35	745.5	30.00	762.0	49	9.4	98	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.47	748.5	29.78	756 4	51	10.6	83	W	.....	.....	1	.....	10n	.....	W	0	0	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.32	744.7	29.77	756.1	55	12.8	90	Calm	0	0	.....	.....	Sm'e	.....	.....	0	0	Smoky	W. H. McIntyre.
St. Andrews, N. B	29.83	757.7	29.88	758.9	54	12.2	90	W	0	0	.....	0	0	.....	.....	0.59	15.0	Clear	Dr. Gove.
St. John, N. B	29.73	755.1	29.89	759.2	55	12.8	74	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.21	741.9	29.91	759.7	63	17.2	75	SW	10	4.5	.....	0	Sm'e	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.13	739.9	29.88	758.9	63	17.2	69	W	9	4.0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.71	729.2	29.98	761.5	52.3	11.3	85	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.73	755.1	29.76	755.9	60	15.6	86	N	2	0.9	.....	8c	2s	SW	N	0.47	11.9	Fair	T. C. Hill.
*Toronto, Ontario	29.59	751.6	29.97	761.2	57	13.9	72	W	6	2.7	.....	2c	0	W	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oraig.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	61	16.1	94	SE	.....	.....	.....	5cs	5n;s	.....	.....	0	0	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Albany, New York	29.74	755.4	29.96	761.0	58	14.4	76	SW	2	0.9	.....	0	0	.....	.....	0.38	9.7	Clear	
Alpena, Michigan	29.13	739.9	29.85	758.2	61	16.1	71	W	8	3.6	.....	1cs	Haze	W	.....	0	0	Clear	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	64	17.8	83	N	10	4.5	.....	0	0	.....	.....	0.32	8.1	Clear	
Augusta, Georgia	29.71	754.6	29.89	759.2	78	25.6	86	Calm	0	0	.....	5ck	2s;hz	W	W	0	0	Cloudy.	
Baltimore, Maryland	29.95	760.7	30.00	762.0	65	18.3	68	NE	4	1.8	.....	0	Sm'e	.....	Calm	0.17	4.3	Clear	
Barnegat, New Jersey	29.94	760.5	29.96	761.0	66	18.9	74	NE	10	4.5	.....	0	0	.....	.....	0.23	5.8	Clear	
Bismarck, Dakota	27.97	710.4	29.82	757.4	61	16.1	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.39	721.1	.....	.....	76	24.4	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.06	687.3	30.02	762.5	60	15.6	76	SE	4	1.8	.....	8k	0	W	.....	0	0	Fair	
Boston, Massachusetts	29.81	757 2	29.96	761.0	59	15.0	70	W	6	2.7	.....	0	Haze	.....	NW	0.44	11.2	Hazy	
Brackettville, Texas	28.78	731.0	29.78	756.4	73	22.8	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.77	730.7	29.72	754.9	60	15.6	82	SE	8	3.6	.....	2ck	0	SW	.....	0	0	Fair	
Brownsville, Texas	29.87	758.7	29.94	760.5	74	23.3	90	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Buffalo, New York	29.27	743.4	29.95	760.7	61	16.1	77	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.66	753.4	29.92	760.0	57	13.9	75	S	8	3.6	.....	0	0	.....	.....	0.25	6.3	Clear	
Cairo, Illinois	29.49	749.0	29.87	758.7	68	20.0	74	NE	4	1.8	.....	0	0	.....	.....	0.05	1.3	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	65	18.3	73	NE	.....	.....	1	0	2s	.....	Calm	Blank	Blank	Fair	
Camp Grant, Arizona	25.31	642 9	30.11	764.8	68	20.0	84	Calm	.....	.....	0	2c	0	Calm	.....	0	0	Fair	
Camp Verde, Arizona	26.74	679.2	30.22	767.6	74	23.3	81	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.42	696.5	29.99	761.7	52	11.1	86	Calm	.....	.....	0	.....	Fog	.....	Calm	0	0	Foggy	
Cape Hatteras, N. Carolina	29.87	758.7	29.88	758.9	75	23.9	86	NE	20	8.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Cape Henry, Virginia	29.92	760.0	29.94	760.5	72	22.2	80	NE	24	10.7	.....	.....	10s	.....	SW	0.23	5.8	Cloudy	
Cape Lookout, N. Carolina	29.85	758.2	29.87	758.7	75	23.9	91	NW	8	3 6	.....	.....	10s	.....	W	0.78	19.8	Cloudy.	
Cape May, New Jersey	29.94	760.5	29.97	761.2	63	17.2	78	N	10	4.5	.....	0	0	.....	.....	0.59	15.0	Clear	
Castroville, Texas	29.14	740.1	29.82	757.4	73	22.8	90	Calm	0	0	.....	2cs	0	E	.....	0	0	Fair	
Charleston, South Carolina	29.84	757.9	29.90	759.4	79	26.1	78	W	5	2.2	.....	1cs	0	W	.....	0	0	Clear	
Cheyenne, Wyoming	24.41	612.4	30.05	763.3	56	13.3	87	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.29	744.0	29.96	761.0	62	16.7	67	N	3	1.3	.....	10k	0	NW	.....	0	0	Cloudy	
Cincinnati, Ohio	29.31	744.5	29.94	760.5	64	17.8	63	NE	3	1.3	.....	0	Sm'e	.....	NE	0.21	5.3	Clear	
Cleveland, Ohio	29.29	744.0	30.00	762 0	54	12.2	74	E	5	2.2	.....	0	0	.....	.....	0.02	0.5	Clear	
Coleman City, Texas	28.15	715.0	29.71	754.6	81	27.2	74	W	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.15	740.4	29.97	761.2	58	14.4	81	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Concho, Texas	28.02	711.7	29.63	752.6	72	22.2	80	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.41	747.0	29.85	758.2	79	26.1	70	SW	6	2.7	.....	2ck	2s	Calm	NE	0	0	Fair	
Davenport, Iowa	29.36	745.7	29.98	761.5	62	16.7	77	Calm	0	0	.....	4ck	0	W	.....	0	0	Fair	
Denison, Texas	29.07	738.4	29.82	757.4	77	25.0	82	NW	3	1.3	.....	0	8ks	.....	Calm	0	0	Fair	
Denver, Colorado	24.84	630.9	30.06	763.5	62	16.7	77	S	4	1.8	.....	0	0	.....	.....	0.01	0.3	Clear	
Des Moines, Iowa	29.09	738.9	29.93	760.2	68	20.0	70	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Detroit, Michigan	29.32	744.7	29.97	761.2	58	14.4	70	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Dodge City, Kansas	27.39	695.7	29.60	751.8	62	16.7	94	Calm	0	0	.....	8c	2s	W	Calm	0.02	0.5	Cloudy	
Dubuque, Iowa	29.29	744.0	29.98	761.5	57	13.9	81	E	1	0.4	.....	8k	Fog	SE	Calm	0	0	Cloudy	
Duluth, Minnesota	29.19	741.4	29.84	757.9	59	15.0	70	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Eagle Pass, Texas	29.19	741.4	29.90	759.4	74	23.3	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Eastport, Maine	29.81	757.2	29.88	758.9	57	13.9	75	W	3	1.3	.....	0	0	.....	.....	0.76	19.3	Clear	
Edinburg, Texas	.....	.....	.....	.....	79	26.1	95	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	82	27.8	57	W	12	5.4	.....	0	0	.....	.....	0	0	Clear.	
Erie, Pennsylvania	29.27	743.4	29.97	761.2	59	15.0	76	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.23	742.4	29.88	758.9	57	13.9	63	W	11	4.9	.....	5k	0	W	.....	0	0	Fair	
Florence, Arizona	.....	.....	.....	.....	79	26.1	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear.	
Fort Craig, New Mexico	25.55	649.0	29.61	752.1	78	25.6	79	NE	1	0.4	.....	.....	10s	.....	NE	0.01	0.3	Cloudy	
Fort Davis, Texas	25.23	640.8	30.19	766.8	70	21.1	67	NW	3	1.3	.....	2c	0	E	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.32	744.7	29.83	757.7	74	23.3	95	NE	3	1.3	.....	.....	10s	.....	N	0.20	5.1	Cloudy	
Fort Griffin, Texas	28.64	727.4	29.85	758.2	74	23.3	81	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Clear	
Fort McKavett, Texas	27.72	704.1	29.55	750.6	75	23.9	72	SW	10	4.5	.....	0	Haze	.....	.....	0	0	Hazy	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.69	728.7	29.74	755.4	72	22.2	80	N	9	4.0	.....	2c	5s	NW	NW	0	0	Threatening	
Fredericksburg, Texas	28.21	716.5	29.70	754.4	75	23.9	77	SW	1	0.4	.....	2cs	0	Calm	.....	0	0	Fair	
Galveston, Texas	29.87	758 7	29.91	759.7	82	27.8	79	W	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.34	745.2	29.97	761.2	57	13.9	75	Calm	0	0	.....	5k	2s	N	Calm	0	0	Fair	
Indianapolis, Indiana	29.20	741.7	29.96	761.0	61	16.1	71	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianola, Texas	29.91	759.7	29.93	760.2	80	26.7	87	W	4	1.8	.....	2ck	0	NE	.....	0	0	Fair	
Jacksboro, Texas	28.75	730.2	29.82	757.4	75	23.9	81	S	1	0.4	.....	2c	0	S	.....	0	0	Clear	
Jacksonville, Florida	29.90	759.4	29.92	760.0	76	24.4	69	Calm	0	0	.....	2k	0	Calm	.....	0	0	Clear	
Keokuk, Iowa	29.33	745.0	29.92	760.0	63	17.2	78	SE	2	0.9	.....	4ck;k	0	Calm	.....	0	0	Fair	
Key West, Florida	29.90	759.4	29.93	760.2	81	27.2	78	SW	8	3.6	.....	2cs	2ks	W	W	1.12	28.4	Fair	
Kittyhawk, North Carolina	29.86	758.4	29.89	759.2	74	23.3	72	NE	24	10.7	.....	.....	10ks	.....	NE	0.24	6.1	Cloudy	
Knoxville, Tennessee	28.92	734.6	29.88	758.9	70	21.1	90	NE	5	2.2	.....	.....	10ks	.....	E	0.53	13 5	Cloudy	
La Crosse, Wisconsin	29.21	741.9	29.92	760.0	61	16.1	71	S	6	2.7	.....	5k	0	W	.....	0	0	Fair	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	68	20.0	84	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.48	748.8	29.81	757.2	77	25.0	86	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Lead City, Dakota	24.84	630.9	30.10	764.5	60	15.6	71	S	3	1.3	.....	2k	0	W	.....	0	0	Fair	
Leavenworth, Kansas	29.08	738.6	29.89	759.2	65	18.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Los Angeles, California	29.62	752.3	29.95	760.7	64	17.8	83	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.39	746.5	29.94	760.5	63	17.2	67	NE	6	2.7	.....	0	Sm'e	.....	NE	0.18	4.6	Clear	
Lynchburg, Virginia	29.32	744.7	29.97	761.2	71	21.7	57	E	2	0.9	.....	0	0	.....	.....	0.06	1.5	Clear	
Marquette, Michigan	29.13	739.9	29.80	756.9	61	16.1	50	W	20	8.9	.....	2c	0	W	.....	0	0	Fair	
Mason, Texas	28.29	718.6	29.97	761.2	73	22.8	85	E	1	0.4	.....	Haze	Haze	Calm	Calm	0.15	3.8	Hazy	
Memphis, Tennessee	29.00	751.8	29.99	759.4	74	23.3	85	NE	2	0.9	.....	.....	10s	.....	N	0.05	1.3	Cloudy	
Milwaukee, Wisconsin	29.25	742.9	29.93	760.0	58	14.4	82	W	8	3.6	.....	7ck	0	E	.....	0	0	Fair	
Mobile, Alabama	29.89	759.2	29.93	760.2	78	25.6	82	W	4	1.8	.....	1k	2s	SW	Calm	0	0	Fair	
Montgomery, Alabama	29.68	753.9	29.90	759.4	78	25.6	82	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
Morgantown, West Virginia	28.95	735.3	29.97	761.2	63	17.2	72	Calm	0	0	.....	0	Fog	.....	Calm	0.13	3.3	Foggy	
Mt. Washington, N. H.	23.71	602.2	30.07	763.8	33	0.6	79	NW	27	12.1	.....	0	0	.....	.....	1.10	27.9	Clear	
Nashville, Tennessee	29.38	746.2	29.89	759.2	72	22.2	71	N	2	0.9	.....	.....	10s	.....	Calm	0.16	4.1	Cloudy	
New Haven, Connecticut	29.86	758.4	29.98	761.5	66	18.9	69	NE	1	0.4	.....	0	0	.....	.....	0.75	19.1	Clear	
New London, Connecticut	29.94	760.5	29.98	761.5	64	17.8	68	N	4	1.8	.....	0	0	.....	.....	0.23	5.8	Clear	
New Orleans, Louisiana	29.87	758.7	29.92	760.0	81	27.2	78	SW	4	1.8	.....	2k	8ks	Calm	SW	0	0	Threatening	
Newport, Rhode Island	29.92	760.0	29.96	761.0	62	16.7	77	NW	6	2.7	.....	0	0	.....	.....	0.35	8.9	Clear	
New York, New York	29.82	757.4	29.99	761.7	65	18.3	68	N	4	1.8	.....	0	Haze	.....	NE	0.15	3.8	Clear	
Norfolk, Virginia	29.88	758.9	29.94	760.5	73	22.8	72	NE	12	5.4	.....	1ck	5s	Calm	NE	0.08	2.0	Fair	
North Platte, Nebraska	27.04	686.8	29.52	749.8	60	15.6	65	SW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.07	763.8	30.11	764.8	50	10.0	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Omaha, Nebraska	28.82	732.0	29.85	758.2	64	17.8	78	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.64	752.8	29.96	761.0	60	15.6	77	SW	6	2.7	.....	Haze	0	Calm	.....	Inap.	Inap.	Clear	
Pembina, Dakota	28.92	734.6	29.73	755.1	52	11.1	86	SE	8	3.6	.....	0	5s	.....	W	0	0	Fair	
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	65	18.3	58	NE	8	3.6	.....	0	Sm'e	.....	Calm	0.16	4.1	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.74	730.0	.....	.....	85	29.4	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Pike's Peak, Colorado	18.10	459.7	30.31	769.9	39	3.9	64	NE	7	3.1	.....	0	5ks	.....	NE	0.40	10.2	Fair	
Pioche, Nevada	24.12	612.6	29.88	758.9	66	18.9	49	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.20	741.7	30.01	762.2	52	11.1	93	NW	2	0.9	.....	0	Fog	.....	Calm	0.06	1.5	Clear	
Port Huron, Michigan	29.31	744.5	29.95	760.7	60	15.6	71	SW	8	3.6	.....	0	0	.....	.....	6	0	Clear	
Portland, Maine	29.87	758.7	29.92	760.0	59	15.0	70	W	4	1.8	.....	0	0	.....	.....	0.42	10.7	Clear	
Portland, Oregon	30.03	762.7	30.14	765.5	55	12.8	93	NW	2	0.9	.....	0	Fog	.....	SE	0	0	Clear	
Prescott, Arizona	24.84	630.9	30.20	767.1	60	15.6	88	Calm	0	0	.....	0	0	.....	.....	0.01	0.3	Clear	
Pilot Point, Texas	29.08	738.6	29.86	758.4	78	25.6	77	Calm	0	0	.....	8ck	0	Calm	.....	0	0	Cloudy	
Punta Rassa, Florida	29.93	760.2	29.95	760.7	80	26.7	78	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.55	750.6	29.89	759.2	67	19.4	59	SE	1	0.4	.....	1k	0	SE	.....	0	0	Clear	
Rio Grande City, Texas	29.76	755.9	29.97	761.2	80	26.7	66	SE	1	0.4	.....	5k	0	SE	.....	0	0	Fair	
Rochester, New York	29.36	745.7	29.96	761.0	55	12.8	74	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Roseburg, Oregon	29.53	750.0	30.10	764.5	53	11.7	93	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Sacramento, California	29.80	756.9	29.88	758.9	57	13.9	81	S	8	3.6	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.40	746.7	29.96	761.0	61	16.1	77	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.91	759.7	29.92	760.0	73	22.8	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	29.04	737.6	29.85	758.2	56	13.3	80	SE	6	2.7	.....	1ck	0	N	.....	0	0	Clear	
Salt Lake City, Utah	25.64	651.2	29.97	761.2	64	17.8	53	S	4	1.8	.....	2k	0	W	.....	0	0	Fair	
San Antonio, Texas	29.23	742.4	29.78	756.4	75	23.9	90	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
San Diego, California	29.93	760.2	30.00	762.0	65	18.3	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.35	745.5	30.01	762.2	60	15.6	65	S	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	65	18.3	63	NE	10	4.5	.....	0	Fog	.....	E	0.21	5.3	Clear	
San Francisco, California	29.90	759.4	29.97	761.2	57	13.9	81	SW	8	3.6	.....	.....	10s	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.38	593.8	29.92	760.0	59	15.0	76	Calm	0	0	.....	.....	10s	.....	Calm	1.04	26.4	Cloudy	
Savannah, Georgia	29.80	756.9	29.89	759.2	81	27.2	70	W	7	3.1	.....	1c	Haze	W	Calm	0	0	Clear	
Shreveport, Louisiana	29.68	753.9	29.89	759.2	78	25.6	91	S	2	0.9	.....	.....	10s	.....	S	0.06	1.5	Cloudy	
Silver City, New Mexico	24.36	618.7	.....	.....	62	16.7	94	Calm	0	0	.....	5cs	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	29.84	757.9	29.88	758.9	75	23.9	95	NW	3	1.3	.....	.....	10s	.....	NW	0.11	2.8	Cloudy	
Springfield, Massachusetts	29.80	756.9	29.93	760.2	62	16.7	67	Calm	0	0	.....	0	0	.....	.....	0.80	20.3	Clear	
Stockton, Texas	26.91	683.5	29.91	759.7	68	20.0	38	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.91	759.7	29.96	761.0	60	15.6	77	NW	4	1.8	.....	0	0	.....	.....	0.39	9.9	Clear	
Toledo, Ohio	29.32	744.7	29.98	761.5	61	16.1	71	W	4	1.8	.....	2c	0	Calm	.....	0	0	Clear	
Tucson, Arizona	27.23	691.6	29.78	756.4	77	25.0	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.86	758.4	29.89	759.2	77	25.0	73	SW	4	1.8	.....	2ck	Haze	Calm	Calm	0	0	Fair	
Umatilla, Oregon	29.69	754.1	.....	.....	56	13.3	69	SE	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	46	7.8	100	NW	.....	.....	9	.....	10n	.....	NW	0.22	5.6	Raining	
Uvalde, Texas	29.00	736.6	29.80	756.9	72	22.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.67	753.6	29.92	760.0	77	25.0	86	N	2	0.9	.....	5ck	0	Calm	.....	0	0	Fair	
Virginia City, Montana	24.37	619.0	29.85	758.2	60	15.6	65	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.55	750.6	29.91	759.7	61	16.1	60	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	29.90	759.4	30.02	762.5	67	19.4	64	NE	7	3.1	.....	0	0	.....	.....	0.03	0.8	Clear	
Wickenburg, Arizona	.....	.....	.....	.....	71	21.7	80	NW	.....	.....	1	2cs	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.79	756.7	29.87	758.7	74	23.3	95	N	1	0.4	.....	0	8s	.....	N	0.07	1.8	Fair	
Winnemucca, Nevada	25.63	651.0	29.99	761.7	65	18.3	54	SW	12	5.4	.....	8k	2s	SW	SW	0	0	Cloudy	
Wood's Holl, Mass	29.91	759.7	29.96	761.0	62	16.7	71	NW	6	2.7	.....	Haze	0	.....	.....	0.07	1.8	Clear	
Yankton, Dakota	28.62	726.9	29.87	758.7	59	15.0	85	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.67	753.6	29.83	757.7	72	22.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.96	761.0	30.06	762.0	42.0	5.6	96	W	9	4.0	.....	4c	0	NW	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I	29.92	760.0	29.94	760.5	80	26.7	86	SW	1	0.4	.....	4ck	0	W	.....	0.05	1.3	Fair	Chas. Hasselbriak.
Santiago de Cuba, W. I	29.93	760.2	29.95	760.7	81	27.2	86	Calm	0	0	.....	2ck	2k	NE	.....	Blank	Blank	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	82	27.8	83	E	2	0.9	.....	2c	2ks	SE	.....	0.15	3.8	Clear	G. O. Gellich.
Kingston, Jamaica, W. I	30.14	765.5	30.15	765.8	81	27.2	91	Calm	0	0	.....	8c	2s	Calm	.....	0	0	.....	James Gall.
Navassa, W. I	29.90	759.4	29.98	761.5	84	28.9	.....	E	6.7	3.0	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.01	762.2	30.01	762.2	82	27.8	79	NE	.....	.....	2	0	5k	.....	.....	0.960	24.38	Fair	C. J. Hering
Medellin, Colombia, S. A	25.29	642.4	.....	.....	65.5	18.6	82	Calm	0	0	.....	2cs	7n	.....	.....	0.08	2.0	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft.,or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4, m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	BAROMETER. As read off. Inches.	BAROMETER. As read off. Millimeters.	BAROMETER. Attached Thermometer. Fahrenheit.	BAROMETER. Attached Thermometer. Centigrade.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Up'er From—	CLOUDS. Direction. Low'r From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	SEA-SWELL. Character.	SEA-SWELL. Direction from—	WEATHER.	OBSERVER.
Navy Yard, Pensacola, Fla.	30.07	763.8	82	27.8	82	27.8	83	NW	1	0.4	.....	.....	5	.....	SE	0	0	.....	.....	Fair.....	
Navy Yard, Portsmouth, N.H	29.91‡	759.7‡	.....	.....	58	14.4	82	W	2	0.9	.....	.....	2	.....	.....	1.0	25.	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan.....	29.96*	761.0*	78.3	25.7	77	25.0	95	Calm	.....	.....	0	.....	3s	.....	SE	0.13	3.3	.....	.....	Fair.....	
Adams. S. 21° 40', W. 177° 10'.....	30.10	764.5	75	23.9	74	23.3	100	Calm	.....	.....	0	.....	1	.....	.....	.....	.....	Smooth	.....	Pleasant.....	
Alliance, Villafranca, France.....	29.86‡	758.4‡	.....	.....	75	23.9	77	E	.....	.....	1–2	.....	2	.....	E	.....	.....	.....	.....	Pleasant.....	
Ashuelot. Yokohoma, Japan	30.06	763.5	80	26.7	79	26.1	100	S	.....	.....	1	.....	2	.....	Calm	.....	.....	Smooth	.....	Hazy.....	
Alaska, S. 41° 06', W. 59° 59'.....	30.80	782.3	51	10.6	41	5.0	74	NW	.....	.....	3	.....	5	.....	N	0	0	Long	NW	D. clouds.....	
Canonicus, New Orleans, La.....	29.97	761.2	56	13.3	79	26.1	91	SW	.....	.....	2	.....	9	.....	.....	.....	.....	.....	.....	Cloudy.....	
Colorado. New York, N. Y.....	29.93‡	760.2‡	.....	.....	67	19.4	60	NE	9	4.0	.....	.....	5	.....	N	0.14	3.6	.....	.....	Foggy	
Constitution, Havre, France.....	29.49‡	749.0‡	.....	.....	67	19.4	95	WSW	.....	.....	4	.....	10	.....	Calm	.....	.....	.....	.....	Drizzly.....	
Despatch, Constantinople, Turkey	29.80‡	756.9‡	.....	.....	73	22.8	90	NNE	.....	.....	3	.....	8	.....	NE	.....	.....	.....	.....	Cloudy.....	
Franklin, Norfolk, Va.....	30.04	763.0	75	23.9	74	23.3	90	NNE	9	4.0	.....	.....	8	.....	NE	0.01	0.3	.....	.....	Cloudy.....	
Gettysburg Toulon, France.....	29.85‡	758.2‡	.....	.....	80	26.7	96	SW	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Fair.....	
Hartford, Rio de Janeiro, Brazil ...	30.03	762.7	.....	.....	71	21.7	90	NNW	1.0	0.4	.....	.....	8	.....	.....	0	0	.....	.....	Hazy.....	
Marion, N. 40° 09', E. 4° 46'.....	29.98	761.5	81	27.2	83	28.3	53	SSW	.....	.....	3	.....	0	.....	.....	0	0	Smooth	SSW	Clear.....	
Michigan, Lake Michigan.....	29.40	746.7	72	22.2	68	20.0	65	NW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy, Yokohama, Japan	29.96‡	761.0‡	.....	.....	80	26.7	91	S	.....	.....	0–1	.....	8	.....	SSE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.....	30.07	763.8	80	26.7	79	26.1	70	WSW	11	4.9	.....	.....	0	.....	.....	0.1	3.	.....	.....	Clear.....	
Onward, Callao, Peru.....	30.18†	766.6†	.....	.....	64	17.8	78	NE	.....	.....	2	.....	2	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.....	.....	.....	.....	.....	64	17.8	94	N	.....	.....	2	.....	10	.....	N	0.3	8.	.....	.....	Cloudy.....	
Palos, Tientsin, China.....	30.05	763.3	78	25.6	74	23.3	76	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Hazy.....	
Plymouth. New York, N. Y.....	30.15	765.8	65	18.3	65	18.3	78	NW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Ranger. Hong-Kong, China.....	30.08	764.0	86	30.0	85	29.4	88	SSE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	.....	Fair.....	
Rio Bravo. Brownsville, Texas.....	29.89	759.2	76	24.4	76	24.4	95	N	.....	.....	.....	.....	2	.....	N	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.....	29.98‡	761.5‡	.....	.....	68	20.0	60	NE	.....	.....	2	.....	2	.....	.....	0.22	5.6	.....	.....	Clear.	
St. Louis, League Island, Pa.....	29.95	760.7	63	17.2	64	17.8	100	NW	5	2.2	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Supply, Havre, France.....	29.58	751.3	68	20.0	68	20.0	84	WSW	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Drizzling.....	
Swatara, Boston, Mass.....	29.94‡	760.5‡	.....	.....	61	16.1	77	NW	.....	.....	2	.....	2	.....	SE	.....	.....	.....	.....	Clear.....	
Trenton, Cherbourg, France.....	29.48‡	748.8‡	.....	.....	64	17.8	94	W	.....	.....	3	.....	10	.....	W	1.5	38.	.....	.....	Drizzling.....	
Tuscarora. N. 24° 18', W. 110° 08'.....	29.70	754.4	84	28.9	85	29.4	76	Calm	.....	.....	0	.....	5	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia. Villafranca, France.....	29.86‡	758.4‡	.....	.....	76	24.4	73	SE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.....	29.95‡	760.7‡	.....	.....	61	16.1	66	WNW	4	1.8	.....	.....	0	.....	.....	0.38	9.7	.....	.....	Clear.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
Pacific Mail S. S. Co. Marine Series. Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China																			Capt. Berry.
S. S. City of New York																			Capt. Cobb.
S. S. City of Panama																			Capt. Seabury.
S. S. City of Peking, N. 26° 35′, E. 123° 08′		30.00†	762.0†	82	27.8	83	N	21	9.4		4		N	0	Smooth		D. clouds		Capt. Cavarly.
S. S. City o Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima																			Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, Tacoma, W. T.		30.11†	764.8†	59	15.0	82	Calm			0		0			0			Hazy	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 45° 2′, W. 49° 57′		30.02*	762.5*	62	16.7	??	S			4		10			0	Slight	W	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Mersey River		29.41*	747.0*	67	19.4	60	NNW			2				NW	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 41° 20′, W. 59° 53′		29.88†	758.9†	76	24.4	??	SW			2		5		SW	0	Light	SW	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 26° 27′, E. 122° 26′		29.76*	755.9*	82	27.8	83	NW			2		k		NW		Sm'e	NW	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 50′, W. 166° 10′		29.97†	761.2†	70	21.1	??	NNW			6		k		W	0	Head sea.	W	Overcast	Capt. W. H. Kidley.
S. S. Oceanic, N. 47° 23′, W. 156° 31′		29.48	748.8	53	11.7	93	WSW			4		0				3	W	Blue sky	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 48° 3′, W. 34° 15′		29.92	760.0	58	14.4	??	NNW			5		10		NW	0	High	N	Stormy	Capt. T. H. Lamke.
S. S. Braunschweig, N. 42° 40′ W. 61° 4′		29.76	755.9	68.5	20.3	81	NW			2–3		10		NW	2 hours	1–2	NW	Squally	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 50° 14′, W. 38° 47′		30.07*	763.8*	53	11.7	86	N			4		3		S	Light	Large	N	Clearing	Captain Sargent.
S. S. Ohio, N. 42° 23′ W. 52° 57′ 45″		29.98	761.5	69	20.6	85	ESE			4		6?		ESE	0	Small	ESE	Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.54†	750.3†	67	19.4	100	ENE			2		3		SE	0			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, Off Cape Walsingham		29.49*	749.0*	39.5	4.2		SSE			3		10s			0.43 in or 10.9 mm.			Raining	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 27, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Nemours	.....	.....	29.96	761.0	86.4	30.2	58	NNE	.....	.....	1	.....	2	.....	.....	0	0	Fair	Kesxuche.
Algiers	.....	.....	29.93	760.2	87.4	30.8	58	NE	.....	.....	1	.....	0	.....	.....	0	0	Clear	Tourillere.
La Calle	.....	.....	30.01	762.3	86.0	30.0	67	NE	.....	.....	2	.....	2	.....	.....	0	0	Fair	Foufrede.
Tunis	.....	.....	30.05	763.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.14	765.5	87.8	31.0	.....	E	.....	.....	1	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.12	765.0	96.8	36.0	59	E	.....	.....	1	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.06	763.4	93.6	34.2	.....	W	.....	.....	2	.....	1	.....	.....	0	0	Very fair	Watrin.
Geriville	.....	.....	30.15	765.9	88.3	31.3	36	S	.....	.....	2	.....	4	.....	.....	0	0	Cloudy	Brugniaux.
Lagho'at	.....	.....	30.16	766.0	95.4	35.2	20	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.06	763.4	100.4	38.0	25	SSE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.30	744.2	29.82	757.3	81.1	27.3	62	SW	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. Ivan Stozi.
Cracow, I. R. Observatory	28.98	736.0	29.71	754.6	74.8	23.8	54	WSW	.....	.....	4	.....	4	.....	.....	0.012	0.3	.....	Dr. Wierzbiski
Eperies	28.92	734.6	29.76	756.0	71.1	21.7	78	S	.....	.....	2	.....	9s	.....	.....	0.041	1.05	.....	Julius Mikolik.
Gratz	28.61?	726.7?	29.79?	756.7?	76.3	24.6	70	S	.....	.....	3	.....	4	.....	.....	0.004	0.10	.....	Andreas Rospini.
Hermannstadt	28.47	723.2	29.83	757.7	74.5	23.6	56	NNW	.....	.....	3	.....	4	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.58	726.0	29.87	758.8	70.9	21.6	64	WNW	.....	.....	4	.....	5k	.....	.....	0.039	1.0	.....	Prof. C. Wagner
Lemberg	28.79	731.2	29.73	755.1	72.3	22.4	69	SW	.....	.....	2	.....	8	.....	.....	0.343	8.7	.....	Dr. T. Stanecki.
Pola	29.84	757.8	29.94	760.5	80.1	26.7	66	SSW	.....	.....	1	.....	6ck	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.41	747.1	29.85	758.3	75.9	24.4	59	S	.....	.....	2	.....	7	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.87	758.7	29.97	761.3	82.8	28.2	58	Calm	.....	.....	0	.....	10	.....	.....	0	0	Cloudy	P. Busin.
Vienna	29.18	741.1	29.86	758.5	75.0	23.9	49	W	.....	.....	4	.....	5	.....	.....	0.087	2.2	.....	I. R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.37	720.6	29.83	757.6	66.6	19.2	68	WSW	.....	.....	4	.....	6	.....	.....	0.181	4.7	.....	Prof. M. Passau.
Brussels	29.61	752.0	29.80	756.9	70.2	21.2	67	SW	.....	.....	4	7	2	SW	SW?	0.067	1.70	.....	Royal Observatory
Furnes	29.78	756.3	29.80	756.9	70.9	21.6	76	SSW	.....	.....	5	.....	7	.....	.....	0.197	5.0	.....	M. E. de Cae.
Maeseyck	29.72	751.9	29.85	758.1	70.2	21.2	81	SSW	.....	.....	2	.....	3	.....	.....	0.016	0.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:?1, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

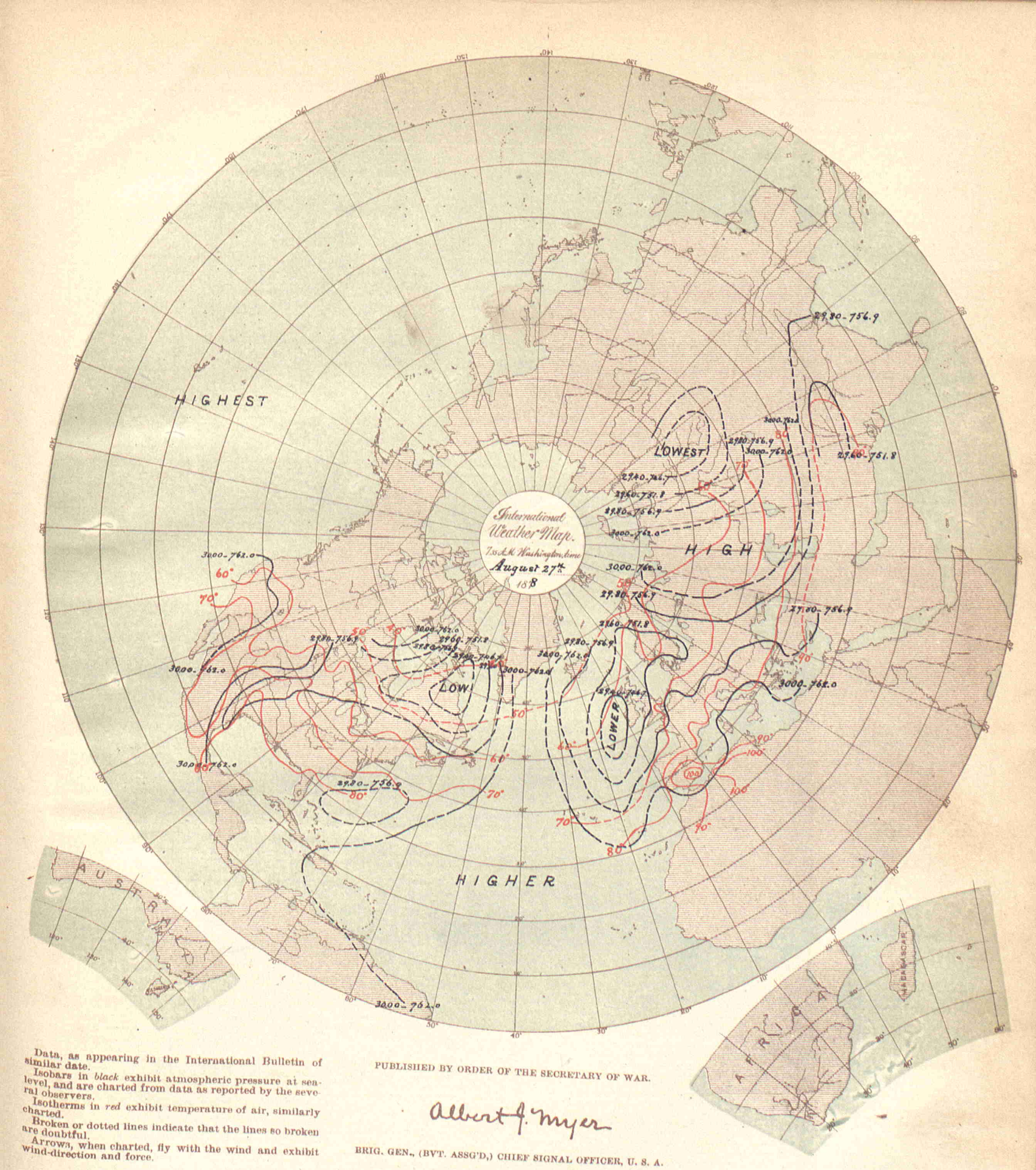
Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.48	748.8	29.57	751.1	57.7	14.3	.....	SE	9	4.0	.....	.....	9	.....	.....	0.115	2.92	Overcast.....	W. Boswell.
Ardrossan	29.49	749.0	29.51	749.5	62	16.7	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	Raining.....	George Carrick.
Armagh, Observatory	.....	.....	29.51	749.5	65.9	18.8	.....	S	4	1.8	.....	.....	7	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.58	751.3	65.0	18.3	.....	WSW	2	0.9	.....	.....	10	.....	.....	.....	.....	Overcast.....	John Hartnup.
Birr Castle, (Parsonstown)	29.28	743.7	29.47	748.5	65.8	18.8	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.20	741.7	29.59	751.6	67.0	19.4	.....	W	.....	.....	1	.....	8	.....	.....	0	0	D. clouds..	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	85	29.4	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.66	753.4	64.0	17.8	.....	S	.....	.....	1	.....	5	.....	.....	.....	.....	Raining.....	H. Todd. [H.C.
Cardington	.....	.....	29.65	753.1	71.0	21.7	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E.	29.56	750.8	29.69	754.1	67.7	19.8	.....	S	.....	.....	2	.....	4	.....	.....	.....	.....	Blue sky.....	Lt. W. G. Morris, R. E.
Dartmoor	28.21	716.5	29.64	752.8	59.0	15.0	.....	SW	.....	.....	3	.....	6	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.48	748.8	29.51	749.5	60	15.6	.....	SSW	.....	.....	1	.....	10	.....	.....	.....	.....	Raining.....	J. Mac Gowan.
Dover	29.71	754.6	29.73	755.1	66	18.9	.....	WSW	....	.....	4	.....	5	.....	.....	.....	.....	½ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.58	751.3	67.3	19.6	.....	SSW	3.2	1.4	.....	.....	10	.....	.....	.....	.....	Raining	Thomas Mackereth.
Falmouth, Observatory	29.44	747.8	29.66	753.4	65.6	18.7	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Gloomy	The Staff.
Fort Napier, (Natal)	27.70	703.6	30.00	762.0	63.4	17.4	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Pvt. G. Salmon, A.H.C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	83	28.3	.....	SW	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.41	747.0	62	16.7	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.90	759.4	29.95	760.7	.....	.....	.....	NE	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.32	744.7	29.53	750.0	64.1	17.8	.....	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining.....	D. G. Maclean.
Great Yarmouth	29.69	754.1	29.70	754.4	66	18.9	.....	SSW	.....	.....	3	.....	6	.....	.....	.....	.....	Raining.....	G. T. Watson.
Greenwich, Royal Obs'y	29.51	749.5	29.68	753.9	71.1	21.7	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Nearly overcast.	The Staff, for G. B. Airy.
Guernsey	29.54	750.3	29.76	755.9	64	17.8	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	Squally.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.70	754.4	68	20.0	.....	SW	.....	.....	4	.....	3ck	.....	.....	0.03	0.8	Showery.....	M. P. Moyle.
Holyhead	29.53	750.0	29.58	751.3	66	18.9	.....	SSW	.....	.....	4	.....	2	.....	.....	.....	.....	Blue sky.....	John Tilston.
Jersey	29.51	749.5	29.79	756.7	63.9	17.7	.....	WSW	.....	.....	4	.....	7	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.68	753.9	68.9	20.5	.....	WSW	20	8.9	.....	.....	6	.....	.....	.....	.....	D. clouds..	The Staff.
Kingstown	29.52	749.8	29.55	750.6	65	18.3	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	D. clouds....	George Mitchell.
Leicester, Museum	.....	.....	29.60	751.8	71.0	21.7	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.94	760.5	30.02	762.5	82	27.8	.....	E	.....	.....	1	.....	1ck	.....	.....	.....	.....	D. clouds.....	H. J. Becket, A. H. C.
Nairn	29.42	747.3	29.49	749.0	60	15.6	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.94	760.5	83.0	28.3	.....	NE	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds....	C. S. Duncombe.
Nottingham, Observatory	29.43	747.5	29.61	752.1	70.1	21.2	.....	S	.....	.....	3	.....	10d	.....	S	0.072	1.83	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.09	738.9	29.60	751.8	63.9	17.7	.....	S	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.64	752.8	70	21.1	.....	S	.....	.....	3	.....	10	.....	.....	.....	.....	Threatening	H.E. Bellamy.
Plymouth	29.59	751.6	29.67	753.6	68.0	20.0	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds....	John Merrifield
Poche's Point	29.45	748.0	29.49	749.0	65	18.3	.....	SSW	.....	.....	4	.....	8	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.43	747.5	29.50	751.6	64	17.8	.....	S	.....	.....	3	.....	6	.....	.....	.....	.....	Showery.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.57	751.1	58	14.4	.....	NNW	5	2.2	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.84	757.9	79.0	26.1	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Sergt. W. H. Lyne.
Sheffield	29.34	745.2	29.61	752.1	73.0	22.8	.....	SSW	.....	.....	2	.....	6	.....	.....	0.05	1.3	D. clouds.....	W. F. Cooper.
Silloth Rectory	29.52	749.8	29.55	750.6	69.7	20.9	70	W	.....	.....	2	.....	0	.....	.....	1.495	37.94	Blue sky.....	C. Edith Redford.
Stonyhurst, Observatory	29.20	741.7	29.60	751.8	64.2	17.9	.....	SW	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Rev. S. J. Perry.
Stornoway, Lewis C. (Hebr.)	29.47	748.5	29.51	749.5	60	15.6	.....	NE	.....	.....	3	.....	0	.....	.....	.....	.....	.....	John Sutherland.
Strathfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.56	750.8	63	17.2	.....	NNW	.....	.....	1	.....	4	.....	.....	.....	.....	D. clouds....	John Trotter.
Turro, Royal Institution	.....	.....	29.66	753.4	70	21.1	.....	S	.....	.....	6	.....	4	.....	.....	.....	.....	D. clouds....	W. Newcombe.
Valencia, Observatory	.....	.....	29.39	746.5	62.3	16.8	.....	SE	25	11.2	.....	.....	10	.....	.....	.....	.....	Showery.....	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	29.93	760.2	60	15.6	88	NW	.....	.....	2	.....	10n	.....	.....	0.15	3.8	Covered.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.89	759.2	30.08	764.1	74.8	23.8	72	NE	15.5	6.9	.....	5	4	W	NE	0.01	0.3	Cloudy; fine	C. Meldrum.
Melbourne, Observatory	29.86	758.4	29.95	760.7	50.9	10.5	90	SSW	4	1.8	.....	.....	0	.....	.....	0	0	Heavy dew.	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES. VESSELS.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 43° 20', W. 9°61 0'	2	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith, N. 49° 50', W. 10° 45'	5	NW	Squally.....	Capt. D. W. A. Quaile.
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson. [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.

NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.30	668.0	.....	.....	67.6	19.8	86	S	.....	.....	1	9s	.....	E	.....	0.2	5.	.....	Federico Maison
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.61	752.2	29.66	753.4	64.4	18.0	88	NNE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....
Fanöe	29 68	753.8	29.70	754.3	66.4	19.1	81	W	.....	.....	4	.....	5	.....	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29 71	754.7	29.76	755.8	45.1	7.3	99	S	.....	.....	2	.....	10	.....	.....	.....	.....	Foggy	.....
Stykkisholm, (Iceland)	29.85	758.3	29.90	759.4	48.6	9.2	76	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....
Thorshavn, (Farõe)	29.63	752.7	29.67	753.6	55.6	13.1	75	NE	.....	.....	2	.....	5	.....	.....	.....	.....	.....	.....
Vestervig	29.49	749.0	29.66	753.3	61.3	16.3	76	W	.....	.....	2	.....	6	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.34	745.1	29.89	759.1	68.4	20.2	65	SW	.....	.....	3	.....	8	.....	NW	0.126	3.20	Very cloudy	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.85	758.1	29.93	760.1	87.8	31	55	ENE	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.36	745.8	29.91	759.8	73.4	23.0	63	SW	.....	.....	1	.....	8kn	.....	SW	0.500	12.7	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.57	751.1	29.84	758.0	72.5	22.5	56	WSW	.....	.....	2	.....	8	.....	WSW	0.010	0.25	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.11	739.3	29.97	761.1	73.4	23	75	S	.....	.....	2	.....	2	.....	E	0.295	7.5	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.37	746.1	29.90	759.5	72.7	22.6	79	SW	.....	.....	1	.....	10kn	.....	W	0.08	2.	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.48	748.9	29.73	755.1	68.4	20.2	68	SW	.....	.....	5	.....	8	.....	SW	0.167	4.25	.....	The Staff.
Carcassonne, Normal School	29.52	749.7	29.90	759.5	87.8	31	49	W	.....	.....	2	.....	2	W	.....	0	0	Slightly cl'dy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.16	740.6	29.71	754.6	74.1	23.4	93	S	.....	.....	4	.....	5	.....	N	0.413	10.5	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.54	750.3	29.85	758.1	70.5	21.4	77	SW	.....	.....	3	.....	5	SW	SW	0.574	22.2	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.60	726.3	29.89	759.1	75.7	24.3	67	NE	.....	.....	1	.....	.....	.....	SW	0.406	10.3	.....	Alluard, Director.
Commercy, Normal School	29.09	738.8	29.93	760.3	68.7	20.4	76	W	.....	.....	3	.....	10kn	.....	W	0.169	4.3	Covered	Dr. Coulet, Director.
Commune de Grèasque*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.50	749.4	29.71	754.7	67.5	19.7	90	W	.....	.....	1	.....	5	.....	W	0.039	1.0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.57	751.0	29.87	758.6	70.7	21.5	80	SW	.....	.....	1	.....	5	.....	SW	0.098	2.50	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.08	738.7	29.95	760.8	77.0	25	68	SW	.....	.....	2	.....	.....	.....	SW	0.921	23.40	.....	Baudry, Director.
Lorient, Naval Observatory	29.74	755.4	29.84	757.9	69.8	21.0	89	SW	.....	.....	4	.....	8	.....	SW	0.012	0.3	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.89	759.2	29.92	760.0	68.2	20.1	92	W	.....	.....	1	.....	10	.....	.....	0.213	5.4	Covered	M. Galzin, Director.
Mirecourt, Normal School	28.85	732.8	29.85	758.2	71.4	21.9	72	WSW	.....	.....	3	.....	5ck	.....	SW	0.20	5.	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.92?	760.0?	30.11?	764.9?	91.4	33	45	S	.....	.....	6	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	28.94	735.0	29.95	760.6	82.8	28.2	65	N	.....	.....	1	.....	1	N	N	0.134	3.4	Clear	M. Cantier.
Puy de Dome (Summit)	25.21	640.4	.....	.....	59.5	15.3	86	W	.....	.....	1	.....	.....	.....	.....	0.925	23 5	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.93	760.1	29.96	760.9	72.3	22.4	74	WSW	.....	.....	2	.....	2	.....	WSW	0	0	¾ covered	M. Giguel, Director.
Rouen, Normal School	29.74	755.3	29.82	757.4	70.9	21.6	54	SSW	.....	.....	2	.....	5	.....	SW	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.79	756.6	70.0	21.1	65	SSW	.....	.....	4	.....	8	.....	SW	0	0	Very cloudy	M. H. Hercouet
Tarbes, Normal School	28.93	734.8	29.97	761.2	71.6	22.0	66	W	.....	.....	1	.....	5	.....	W	0	0	Cloudy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.94	760.4	29.97	761.1	81.0	27.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchès.
Lyons	.....	.....	29.94	760.5	67.8	19.9	72	.....	.....	.....	.....	.....	10	.....	.....	0.213	5.4	.....	L. Jays.
Marseilles, Observatory	.....	.....	29.93	760.1	81.9	27.7	71	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	The Staff.
Mont-Louis	24.96	634.0	30.28	769.0	77.0	25.0	23	SSW	29.8	13.33	.....	.....	0	.....	.....	0	0	.....	M. Cave.
Nice	.....	.....	29.98	761.5	78.8	26.0	84	E	.....	.....	1	.....	4	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.56	750.8	29.84	757.8	71.6	22.0	75	SW	.....	.....	4	.....	8	.....	SW	0.079	2.0	.....	Marié Davy, Director
Perpignan	.....	.....	29.94	760.4	80.6	27.0	75	SE	5.6	2.50	.....	.....	4	.....	E	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.70	576.6	.....	.....	63.3	17.4	.....	W	.....	.....	6	.....	2	.....	.....	0	0	Clear	Gen'l de Nansouty
Saint Maur, (near Paris)	29.69	754.2	29.86	758.4	72.9	22.7	65	WSW	.....	.....	2	.....	3	W	SW	0.008	0.2	.....	E. Renou.
Toulouse, Observatory	29.30	744.1	30.02	762.5	86.0	30.0	48	SW	.....	.....	1	.....	2	.....	.....	0	0	.....	The Staff.
Tours	29.71	754.6	29.91	759.6	72.3	22.4	68	W	.....	.....	2	.....	7	.....	W	0.012	0.3	.....	C. Marquet.
Versailles	.....	.....	29.87	758.6	72.7	22.6	47	W	.....	.....	2	.....	7	.....	.....	0.032	0.82	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.85	758.1	29.87	758.7	73.0	22.8	94	ENE	3.1	1.4	.....	.....	10	.....	.....	0.020	0.5	Raining	Marc Dechevrens, S. J.
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NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Taxbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:59, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.92	734.5	29.73	755.2	70.5	21.4	70	W	.....	.....	2	.....	4	W	....	0	0	.....	Prof. Dr. Hoh.
Berlin	29.82	757.5	29.75	755.7	68.7	20.4	72	W	.....	.....	1	.....	8	.....	.....	0.087	2.2	Raining	Prof. Arndt.
Breslau	29.23	742.4	29.75	755.7	70.5	21.4	70	WNW	.....	.....	7	.....	4	.....	.....	0.355	9.02	.....	Royal University Obs'y
Carlsruhe	29.50	749.2	29.91	759.7	71.6	22.0	67	SW	.....	.....	2	.....	9	.....	.....	0	0	.....	Albert Senz.
Cassel	29.25	743.0	29.85	758.3	72.0	22.2	62	W	.....	.....	3	.....	8	SW	.....	0.304	7.73	.....	Dr. H. Möhl.
Crefeld	29.65	753.2	29.82	757.3	73.9	23.3	63	SW	.....	.....	2	.....	8	.....	.....	0.31	8.	.....	Director Lose.
Emden	29.68	753.9	29.72	754.9	70.2	21.2	72	WSW	.....	.....	1	.....	8	.....	.....	0	0	.....	Prof. Prestel.
Frankfort on the Main	29.54	750.3	29 89	759.3	71.2	21.8	.....	NW	.....	.....	1	.....	8	.....	.....	0.508	12.9	.....	Physical Society.
Friedrichshafen	28.56	725.4	29.94	760.4	72.0	22.2	67	SSW	.....	.....	1	.....	6	SW	.....	0.244	6.2	.....	M. Wilhelm.
Hamburg	29.70	754.4	29.77	756.1	68.4	20.2	84	WNW	.....	.....	4	.....	4k	.....	.....	0.130	3.3	Fair	Captain F. Hegemann.
Kiel	29.71	754.6	29.72	755.0	69.4	20.8	65	W	.....	.....	3	.....	5	.....	.....	0.188	4.77	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.56	750.9	29.64	752.9	70.7	21.5	76	SE	.....	.....	3	.....	6	.....	.....	0.035	0.9	.....	Prof. E. Luther.
Köslin	.....	.....	29.57	751.0	60.8	16.0	.....	W	.....	.....	2	.....	4	.....	.....	0	0	.....	H. Müller.
Leipsic, Observatory	29.41	746.9	29.81	757.2	72.7	22.6	55	WNW	.....	.....	3	.....	6	W	.....	0.299	7.6	....	Prof. Bruhns.
Memel, Naval School	29.63	752.6	29.68	753.8	69.8	21.0	69	SE	.....	.....	1	.....	10n	.....	.....	.....	.....	....	Reinbrecht and Skalweit.
Neufahrwasser	29.60	751.7	29.61	752.1	63.0	17.2	92	NNE	.....	.....	2	.....	10	.....	.....	1.079	27.4	Raining	A. Lothes.
Posen	29.38	746.2	29.66	753.3	66.7	19.3	84	W	.....	.....	5	.....	10	.....	.....	0.500	12.7	.....	Dr. Magener.
Strassburg (in Alsace)	29.41	747.1	29.94	760.5	74.3	23.5	61	SW	.....	.....	1	.....	9	W	.....	0.060	1.53	.....	Astronomical Observatory.
Stuttgart	28.99	736.4	29.89	759.2	74.3	23.5	49	W	.....	.....	1	.....	4	W	.....	0.209	5.3	....	Prof. Schoder.
Treves, (Trier)	29.35	745.4	29.87	758.6	72.1	22.3	63	SW	.....	.....	5	.....	5	.....	.....	0.009	0.23	.....	Prof. Flesch.
Weissenburg, (Bavaria)	28.46	722.8	29.91	759.8	68.5	20.3	56	WNW	5.8	2.6	.....	.....	5ck	.....	W	0.091	2.3	.....	Dr. Von Bebber.
Wustrow, Naval School	29.68	753.9	29.72	754.9	66.2	19.0	86	WNW	.....	.....	3	.....	4	.....	.....	0.220	5.6	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower c'ouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.53	750.0	29.90	759.5	86.4	30.2	.....	SW	.....	.....	2.0	.....	.....	....	....	.....	.....	Clear.	Dr. J. F. J. Schmidt.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.24	742.8	29.72	754.8	84.8	29.3	79	S	.....	.....	.....	.....	2	.....	.....	0	0	D. clouds.....	
Bombay	29.72	754.9	29.76	755.9	83.3	28.5	83	WNW	11	4.9	.....	.....	10	.....	WSW	0	0	Overcas.....	
Poona	27.74	704.6	29.74	755.3	78.2	25.7	81	SW	.....	.....	.....	.....	10	.....	SW	0	0	Overcast.....	
Lahore	28.81	731.9	29.53	750.1	93.1	33.9	58	W	2.2	1.0	.....	.....	2	.....	.....	0	0	Blue sky.....	
Belgaum	27.25	692.2	29.78	756.5	75.9	24.4	87	W	8	3.6	.....	.....	9	E	W	0	0	D. clouds.....	
Roorkee	28.68	728.6	29.56	750.8	88.2	31.2	76	Calm	2.3	1.0	.....	.....	2	.....	.....	0	0	.....	
Agra	29.08	738.6	29.63	752.6	88.2	31.2	71	NE	.....	.....	.....	.....	3	.....	NE	0	0	.....	
Nagpur	28.66	728.0	29.70	754.3	81.6	27.6	85	Calm	3.6	1.6	.....	.....	9	.....	.....	0	0	Gloomy.....	
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Allahabad	29.37	746.0	29.68	753.9	78.1	25.6	98	Calm	2.1	0.9	.....	.....	10	.....	.....	1.58	40.1	Overcast.....	
Patna	29.52	749.8	29.70	754.4	80.9	27.2	88	E	2.1	0.9	.....	.....	10	E	E	5.43	137.9	Overcast.....	
Hazaribagh	27.72	704.0	29.74	755.3	74.3	23.5	91	SE	6.5	2.9	.....	.....	10	.....	SE	2.35	59.7	Thunder-storm.	
Cuttack	29.61	752.0	29.69	754.1	85.0	29.4	77	S	4.9	2.2	.....	.....	6	.....	.....	0.60	15.2	D. clouds.....	
Calcutta (Alipore)	29.73	755.0	29.75	755.6	83.7	28.7	82	S	3.0	1.3	.....	.....	9	SW	SW	0	0	D. clouds.....	
Goalpara	29.41	747.1	29.81	757.1	73.4	23.0	98	E	12.5	5.6	.....	.....	10	.....	.....	3.62	91.9	Raining.....	
Chittagong	29.74	755.3	29.83	757.6	83.9	28.8	87	SSW	6.3	2.8	.....	.....	4	.....	.....	0	0	Misty.....	
Sibsagar	29.53	749.9	29.86	758.6	76.1	24.5	95	ENE	2.5	1.1	.....	.....	10	W	W	0.97	24.6	Overcast.....	
Jubbulpore	28.29	718.6	29.65	753.1	78.8	26.0	89	NW	4.1	1.8	.....	.....	10	.....	.....	0.90	22.9	Overcast.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.55	750.5	29.94	760.5	78.6	25.9	66	SE	2.5	1.1	.....	.....	6	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.82	757.3	29.92	760.0	81.5	27.5	55	NW	9.8	4.4	.....	.....	4	WSW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.72	754.8	29.90	759.5	84.4	29.1	52	NW	5.6	2.5	.....	.....	2	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	28.64	727.5	29.90	759.5	81.7	27.6	62	SE	.....	.....	1	.....	5	.....	.....	0	0	.....	Prof. Trionfini Carlo.
Milan	29.43	747.5	29.93	760.2	81.0	27.2	47	SW	.....	.....	2	.....	6	W	.....	0.110	2.8	.....	Prof. Schiaparelli.
Moncalieri	29.06	738.2	29.93	760.3	79.2	26.2	61	E	1.8	0.8	.....	.....	7	SE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.09	713.4	29.92	760.0	74.7	23.7	68	W	.....	.....	4	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.76	755.8	29.97	761.2	80.6	27.0	84	SSW	.....	.....	4	.....	10	SSW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.83	757.6	29.99	761.7	76.1	24.5	76	SE	.....	.....	6	.....	10	SE	.....	0.008	0.2	.....	Prof. G. M. Garibaldi.
Parma	29.61	752.1	29.92	759.9	83.7	28.7	51	NW	.....	.....	6	.....	2	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.74	755.5	29.99	761.8	84.2	29.0	40	SW	.....	.....	4	.....	1	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.89	759.2	29.97	761.3	79.2	26.2	68	SSW	9.4	4.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.48	723.5	29.97	761.2	80.8	27.1	44	SW	.....	.....	1	.....	1	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.87	758.7	30.04	763.0	84.7	29.3	45	SW	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.85	758.1	30.04	763.0	82.9	28.3	58	S	.....	.....	4	.....	1	NW	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.79	756.7	30.04	763.0	80.6	27.0	49	N	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.82	757.3	30.00	762.1	85.1	29.5	54	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.15	740.3	29.99	761.7	86.0	30.0	60	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.80	757.0	30.05	763.3	80.6	27.0	59	NE	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.95	760.6	30.02	762.6	84.4	29.1	53	E	.....	.....	1	.....	1	E	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.52	749.7	30.07	763.8	80.4	26.9	61	SE	1.8	0.8	.....	.....	4	SE	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.66	753.3	29.86	758.4	75.2	24.0	83	N	2.1	0.9	.....	.....	0	.....	.....	0	0	Clear.	
Tokei (Yeddo) Observatory	29.87	758.7	29.93	760.2	76.3	24.6	97	NNE	3.0	1.3	.....	.....	2s	.....	.....	0.39	9.91	Fair	I. Arai, Director.
Tokei (Yeddo) University	29.82	757.4	29.92	759.8	76.4	24.7	100	NE	2	0.9	.....	.....	9	.....	.....	2.31	58.7	Misty.....	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	65.3	18.5	91	NW	1.8	0.8	.....	0	9	.....	.....	1.47	37.4	Cloudy.....	L. Castillo, A. E.
Guadalajara	25.10	637.6	30.06	763.5	58.6	14.8	88	Calm	0	0	.....	0	6ks	.....	NW	0	0	½ cloudy.....	Prof. L. Perez.
Guanajuato	23.72	602.6	29.94	760.4	61.3	16.3	85	Calm	0	0	.....	4	0	W	.....	0.59	14.8	½ cloudy.....	Prof. V. Fernandez
Leon	24.46	621.3	29.99	761.8	63.3	17.4	83	W	0.9	0.4	.....	0	8kn	.....	SW	0	0	Cloudy.....	Prof. M. Leal.
Mexico	23.12	587.3	30.11	764.7	57.0	13.9	83	Calm	0	0	.....	0	2k	.....	.....	0	0	Clear.....	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	63.3	17.4	89	S	0.9	0.4	.....	0	10n	.....	.....	Inap.	Inap.	Covered.....	M. V. de Leon, M. E.
Puebla	23.37	593.5	29.95	760.7	60.4	15.8	88	SW	.....	.....	.....	5kn	4sk	S	.....	0.01	0.3	Threatening	Prof. B. Gonzalez.
Tlacotalpam	29.95	760.8	29.96	761.1	80.6	27.0	84	W	1.8	0.8	.....	5ck	3n	.....	SW	0	0	Cloudy.....	Prof. F. R. Bayly.
San Luis Potosi	24.19	613.7	30.10	763.4	63 6	17.2	68	SSE	0.9	0.4	.....	2	5	W	SSE	0	0	Hazy.....	G. Barroeta, M. D.
Vera-Cruz	29.92	759.9	29.95	760.6	80.6	27.0	85	Calm	0	0	.....	3ck	3sk	.....	.....	Inap.	Inap.	Foggy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	55.4	13.0	78	E	1.8	0.8	.....	0	8	.....	E	0.55	14.0	Cloudy.....	J. A. Bonilla, M. E.
Puebla (Catholic Institute)	23.37	593.1	30.12	765.0	56.8	13.8	83	Calm	0	0	.....	0	7	.....	SW	0	0	Cloudy.....	Prof. P. Spina, [M. M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.42	721.2	30.05	763.3	77.5	25.3	85	E	3.6	1.6	.....	0	6	.....	NE	0	0	½ cloudy.....	R. Banda, C. E.
San Juan E. Mi-hapam	29.70	754.2	29.84	757.9	81.0	27.2	.....	Calm	0	0	.....	2c	2ck	N	N	0	0	½ cloudy.....	Antonio Guerra y Guerra.
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NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.5 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the cooperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.78	756.4	29.78	756.4	71.6	22.0	.....	S	.....	.....	4	.....	.....	.....	.....	0.441	11.2	.....	
Groningen	29.72	754.9	29.78	756.3	68.7	20.4	.....	SW	.....	.....	3	.....	.....	.....	.....	0.004	0.1	.....	
Helder	29.74	755.5	29.74	755.5	68.9	20.5	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.307	7.8	.....	
Hellevoetsluis	29.76	755.8	29.76	755.8	72.7	22.6	77	SW	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.76	755.9	29.81	757.1	69.3	20.7	78	SSW	.....	.....	1	.....	8	.....	.....	0.031	0.8	Very cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.52	749.8	29.58	751.2	66.6	19.2	66	S	15.9	7.1	.....	.....	8	.....	.....	0.102	2.6	Light rain...	
Brönö	29.58	751.3	29.62	752.3	66.2	19.0	63	SE	25	11	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.44	747.8	29.58	751.4	67.1	19.5	75	SW	9	4	.....	.....	3	.....	.....	1.185	30.1	.....	
Tromsö	29.61	752.2	29.66	753.3	47.1	8.4	57	W	13	6	.....	.....	6	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.73	755.2	29.92	760.0	65.5	18.6	78	NNE	8.7	3.9	.....	.....	5	.....	.....	0.512	13.0	.....	Dr. J. A. Sampaio.
Campo Major	29.01	736.9	29.97	761.3	90.5	32.5	32	SW	3.1	1.4	.....	.....	1	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.85	758.3	29.94	760.5	81.3	27.4	64	W	6.3	2.8	.....	.....	0	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.67	753.6	30.02	762.4	78.1	25.6	65	SE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	29.82	757.3	29.89	759.1	65.1	18.4	90	NNE	18.1	8.1	.....	.....	10	.....	.....	1.181	30.1	Raining.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0-9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 38′, W. 16° 55′	.....	.....	30.01	762.3	79.7	26.5	.....	WSW	.....	.....	2	.....	3	.....	N	2	.....	D. Clouds ...	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.02	762.4	71.2	21.8	.....	W	.....	.....	2	.....	3	.....	W	2	W	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.95	760.8	82.0	27.8	.....	NE	.....	.....	3	.....	2	.....	.....	2	NE	D. Clouds ...	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 05′	.....	.....	29.92	759.9	75.4	24.1	.....	WNW	.....	.....	4	.....	0?	.....	.....	2	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. lvos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
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Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation: they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.24	742.6	29.64	752.9	67.3	19.6	88	SSE	13	6	.....	.....	10ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.39	746.4	29.79	756.7	67.5	19.7	75	ESE	2	1	.....	.....	6	.....	.....	.....	.....	Heavy clouds ...	Astronomical Obs.
Dorpat	29.58	751.3	29.81	757.2	65.7	18.7	75	S	7	3	.....	.....	10n;ks	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.87	758.6	29.88	759.0	64.2	17.9	73	SE	13	6	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.21	741.8	29.81	757.1	74.1	23.4	49	SE	11	5	.....	.....	7c;ck	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.72	754.9	29.79	756.7	72.3	22.4	70	NE	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.77	756.1	29.79	756.6	72.0	22.2	94	E	7	3	.....	.....	10	.....	.....	.....	.....	Raining	Lagorio.
Moscow	29.56	750.7	30.08	764.1	70.7	21.5	50	S	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.69	754.0	29.88	759.0	77.0	25.0	30	E	34	15	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs
Archangel	30.07	763.6	30.08	764.1	57.0	13.9	49	WNW	2	1	.....	.....	1c	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.51	724.1	29.85	758.1	81.3	27.4	44	E	4	2	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.13	765.3	30.05	763.2	75.0	23.9	40	ESE	16	7	.....	.....	4cks	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.84	757.9	30.10	764.6	66.7	19.3	45	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.91	734.2	29.84	758.0	53.8	12.1	46	N	27	12	.....	.....	6ck;ks;	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.87	758.6	30.09	764.3	77.2	25.1	36	WNW	7	3	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.47	723.2	30.11	764.9	75.9	24.4	29	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	28.88?	733.6?	29.38?	746.2?	78.4	25.8	35	Calm	0	0	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.47	748.4	29.74	755.4	70.7	21.5	65	E	7	3	.....	.....	0	.....	.....	.....	.....	Dust-haze...	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.76	756.0	29.91	759.6	68.0	20.0	99	Calm	0	0	.....	.....	10n	.....	.....	.....	.....	Raining	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.82	757.3	29.91	759.8	86.7	30.4	61	SW	2.0	0.89	.....	.....	3c	.....	.....	0	0	Clear	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.90	759.4	29.95	760.8	77.9	25.5	70	NW	2.5	1.11	.....	2	7	NW	.....	0	0	Almost cov..	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.1	.....	.....	81.5	27.5	59	SW	11.2	5.02	.....	.....	.....	.....	.....	0	0	Clear	Domingo Martin y Perez
Madrid, Royal Observatory	27.84	707.0	29.91	759.7	91.9	33.3	24	SW	17.2	7.67	.....	0	0	.....	.....	0	0	Clear.	The Staff.
Murcia, Met. Obs'y	29.80	756.9	29.94	760.4	102.2	39.0	27	SW	3.3	1.47	.....	.....	.....	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.04	737.6	29.91	759.7	70.3	21.3	74	S	17.4	7.78	.....	2	5	SW	.....	0.394	10.0	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.90	759.4	29.97	761.1	78.0	25.6	89	S	3.6	1.6	.....	1c	1sk	ESE	.....	0.760	19.3	Fair.....	Benito Vines, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.86	758.5	29.96	760.9	84.6	29.2	49	WSW	15.2	6.8	.....	2	6	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	79.9	26.6	91	S	0	0	.....	2s	1k	S	S	0	0	Clear.	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.82	757.4	29.86	758.4	63.0	17.2	.....	S	.....	.....	2	.....	0	.....	.....	0	0	.....	
Umea	25.74	755.5	29.80	756.8	66.6	19.2	63	SE	.....	.....	2	.....	7	.....	.....	0.205	5.2	.....	
Hernosand	29.67	753.5	29.72	754.8	57.6	14.2	85	E	.....	.....	2	.....	10	.....	.....	0.075	1.9	.....	
Stockholm	29.43	747.6	29.61	752.0	66.9	19.4	76	Calm	.....	.....	0	.....	10	.....	.....	0.039	1.0	.....	
Wisby	29.57	751.1	29.63	752.6	63.7	17.6	88	WNW	.....	.....	6	.....	0	.....	.....	0.260	6.6	.....	
Sub-Series.																			
Upsala	29.52	749.8	29.60	751.7	61.5	16.4	92	E	2.9	1.3	.....	.....	10	SW	E	0.112	2.85	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the c öperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.58	725.8	29.05	760.8	71.6	22.0	77	N	.....	.....	1	.....	6	.....	.....	0.831	21.1	Vapory	The Observatory.
Zurich	28.39	721.1	29.97	761.3	70.7	21.5	80	W	.....	.....	1	.....	6	.....	.....	0.165	4.2	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.8 mm.; Thermometer, +1.3 cent.; Relative Humidity, +20 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.90	759.4	78.6	25.9	57	SE	7	3.0	.....	.....	7	.....	WSW	0	0	.....	The Observatory.
Valona	.....	.....	30.11	764.9	78.4	25.8	.....	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.69	754.1	29.80	756.9	95.9	35.5	49	WSW	.....	.....	2	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.84	757.9	29.90	759.4	61.1	16.2	75	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.58	751.3	29.87	758.7	65	18.3	.....	SW	5	2.2	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N B	29.85	758.2	29.91	759.7	57	13.9	81	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	G. A. Blair.
Charlottetown, P. E. Island	29.90	759.4	29.94	760.5	61	16.1	84	SW	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.65	753.1	29.84	757.9	63.0	17.2	80	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.74	755.4	29.90	759.4	52.2	11.2	73	W	.....	.....	1	.....	.....	.....	.....	0	0	Cloudy	H. A. Johnson.
Esquimault, B. C	30.06	763.5	30.11	764.8	54.2	12.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.85	758.2	29.88	758.9	52	11.1	79	W	6	2.7	.....	5k	2s	SW	SW	0.02	0.5	Threatening	J. McWilliams.
Fredericton, N. B	29.89	759.2	29.95	760.7	60.0	15.6	82	SE	3	1.3	.....	8ck	0	W	.....	0	0	Fair	Prof. Harrison.
*Fort Garry Manitoba	28.94	735.1	29.74	755.4	62	16.7	94	E	5	2.2	.....	2ck	5ks	SE	SE	0.130	3.30	Fair	James Stewart.
Granton, Ontario	28.80	731.5	29.88	758.9	57	13.9	94	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.82	757.4	29.95	760.7	60	15.6	80	W	1	0.4	.....	2c	0	W	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.55	750.6	29.91	759.7	60.7	15.9	78	W	.....	.....	2	2c	0	NW	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.84	757.9	29.86	758.4	60	15.6	80	W	.....	.....	1	.....	10	.....	.....	0.17	4.3	Foggy	E. Weedon.
*Kingston, Ontario	29.56	750.8	29.88	758.9	64	17.8	95	SW	1	0.4	.....	8ck	Sm'e	SW	SW	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.88	758.9	29.92	760.0	67.0	19.4	.....	SW	4	1.8	.....	1k	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.65	753.1	29.85	758.2	64	17.8	79	W	11	4.9	.....	0	Sm'e	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.18	741.2	29.86	758.4	59	15.0	99	W	1	0.4	.....	Haze	Haze	W	W	0	0	Hazy	Rev. R. Mosley.
Peterboro, Ontario	29.15	740.4	29.89	759.2	55.7	13.2	94	Calm	.....	.....	0	7k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.23	742.4	29.91	759.7	55	12.8	87	NW	3	1.3	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.89	759.2	29.94	760.5	68.7	20.4	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.27	743.4	29.91	759.7	53	11.7	96	N	4	1.8	.....	2k	0	NW	.....	0	0	Clear	M. Payne.
*Quebec, Quebec	29.54	750.3	29.86	758.4	56	13.3	94	Calm	.....	.....	0	.....	10n	.....	Calm	0.02	0.5	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.40	746.7	29.85	758.2	54	12.2	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.89	759.2	29.94	760.5	56	13.3	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	29.80	756.9	29.96	761.0	56	13.3	100	S	7	3.1	.....	.....	10s	.....	.....	0	0	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.17	740.9	29.86	758.4	62	16.7	82	SE	2	0.9	.....	0	Sm'e	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.08	738.6	29.83	757.7	67	19.4	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	R. J. Cole.
Stratford, Ontario	28.64	727.4	29.91	759.7	52.2	11.2	97	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.91	759.7	29.94	760.5	66	18.9	73	W	3	1.3	.....	2c	0	.....	.....	0	0	Clear	T. C. Hill.
*Toronto, Ontario	29.52	749.8	29.89	759.2	60	15.6	84	W	2	0.9	.....	5ck	Haze	W	Calm	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oran.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	67.0	19.4	89	SE	.....	.....	.....	5ks	5ns	.....	.....	0.12	3.0	Cloudy	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10.	Clouds. Direction. Upper. From —	Clouds. Direction. Lower. From —	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.72	754.9	29.94	760.5	61	16.1	77	S	4	1.8	.....	8cs	Haze	SW	.....	0	0	Fair	.....
Alpena, Michigan	29.22	742.2	29.84	757.9	57	13.9	80	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	.....
Atlantic City, New Jersey	29.95	760.7	29.97	761.2	70	21.1	90	E	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Augusta, Georgia	29.76	755.9	29.94	760.5	76	24.4	95	Calm	0	0	.....	.....	10n	.....	Calm	0.35	8.9	Light rain	...
Baltimore, Maryland	29.92	760.0	29.96	761.0	65	18.3	84	SE	3	1.3	.....	5k	Fog	SW	Calm	0	0	Fair	.....
Barnegat, New Jersey	29.95	760.7	29.97	761.2	68	20.0	79	Calm	0	0	.....	2c	0	NW	.....	0	0	Clear	.....
Bismarck, Dakota	28.11	714.0	29.96	761.0	61	16.1	71	NW	7	3.1	.....	0	0	.....	.....	0	0	Clear	.....
Boerne, Texas	28.45	722.6	.....	.....	76	24.4	82	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Boise City, Idaho	27.19	690.6	30.15	765.8	60	15.6	59	S	8	3.6	.....	2k	2s	SW	Calm	0	0	Fair	.....
Boston, Massachusetts	29.81	757.2	29.96	761.0	67.5	19.7	69	W	8	3.6	.....	6c:cs	Haze	W	Calm	0	0	Fair	.....
Brackettville, Texas	28.75	730.2	29.74	755.4	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Breckenridge, Minnesota	28.74	730.0	29.70	754.4	58	14.4	88	W	8	3.6	.....	1k	0	W	.....	0.43	10.9	Clear	.....
Brownsville, Texas	29.83	757.7	29.89	759.2	74	23.3	90	Calm	0	0	.....	8cs	0	Calm	.....	0	0	Fair	.....
Buffalo, New York	29.21	741.9	29.88	758.9	61.0	16 1	71	S	3	1.3	.....	2k	0	SW	.....	0	0	Fair	.....
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington, Vermont	29.68	753.9	29.93	760.2	63	17.2	72	S	6	2.7	.....	2ck	Haze	W	.....	0	0	Fair	.....
Cairo, Illinois	29.46	748.3	29.84	757.9	73	22.8	76	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	.....
Camp Apache, Arizona	.....	.....	.....	.....	63	17.2	88	NE	.....	.....	1	0	2s	.....	Calm	0	0	Fair	.....
Camp Grant, Arizona	25.22	640.6	30.02	762.5	67	19.4	69	NE	.....	.....	1	2c	0	NE	.....	0	0	Fair	.....
Camp Verde, Arizona	26.75	679.4	30.24	768.1	73	22.8	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	.....
Campo, California	27.42	696.5	29.99	761.7	40	4.4	91	E	.....	.....	1	0	0	.....	.....	0	0	Clear	.....
Cape Hatteras, N. Carolina	29.90	759.4	29.91	759.7	75	23.9	77	NE	16	7.2	.....	0	0	.....	.....	0.01	0.3	Clear	.....
Cape Henry, Virginia	29.94	760.5	29.96	761.0	71	21.7	66	E	11	4.9	.....	0	5s	.....	SE	0	0	Fair	.....
Cape Lookout, N. Carolina	29.91	759.7	29.92	760.0	73	22.8	85	NE	14	6.3	.....	0	0	.....	.....	1.33	33.8	Clear	.....
Cape May, New Jersey	29.95	760.7	29.98	761.5	68	20.0	79	S	4	1.8	.....	2c	0	W	.....	0	0	Fair	.....
Castroville, Texas	29.09	738.9	29.76	755.9	75	23.9	86	Calm	0	0	.....	2ck	0	.....	.....	0	0	Fair	.....
Charleston, South Carolina	29.91	759.7	29.97	761.2	78	25.6	91	NE	4	1.8	.....	.....	10s	.....	E	0.95	24.1	Cloudy	.....
Cheyenne, Wyoming	24.21	614.9	30.15	765.8	55	12.8	81	N	6	2.7	.....	0	8s	.....	SW	[nap.	[nap.	Cloudy	.....
Chicago, Illinois	29.19	741.4	29.85	758.2	64	17.8	73	SW	4	1.8	.....	2cs	Sm'e	Calm	.....	0	0	Fair	.....
Cincinnati, Ohio	29.22	742.2	29.81	757.9	66	18.9	69	NE	4	1.8	.....	1ck	Sm'e	W	NE	0	0	Clear	.....
Cleveland, Ohio	29.19	741.4	29.90	759.4	59	15.0	70	SE	5	2.2	.....	0	0	.....	.....	0	0	Clear	.....
Coleman City, Texas	28.98	713.2	29.65	753.1	78	25.6	86	W	7	3.1	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Columbus, Ohio	29.06	738.1	29.85	758.4	64	17.8	57	N	4	1.8	.....	5ck	Sm'e	W	Calm	0	0	Fair	.....
Concho, Texas	27.98	710.7	29.58	751.3	74	23.3	59	SW	2	0.9	.....	2c	2s	W	N	0	0	Fair	.....
Corsicana, Texas	29.41	747.0	29.85	758.4	76	24.4	91	SE	5	2.2	.....	.....	10s	.....	Calm	0.26	6.6	Cloudy	.....
Davenport, Iowa	29.28	743.7	29.89	759.2	63	17.2	89	Calm	0	0	.....	4c	Sm'e	W	S	0	0	Fair	.....
Denison, Texas	29.06	738.1	29.81	757.2	75	23.9	90	E	2	0.9	.....	2k	2s	E	Calm	0.01	0.3	Fair	.....
Denver, Colorado	24.95	633.7	30.17	766.3	63	17.2	57	NW	8	3.6	.....	0	5s	.....	W	0	0	Fair	.....
Des Moines, Iowa	28.97	735.8	29.80	756.9	71	21.7	66	SW	4	1.8	.....	2c	5s	W	W	0	0	Fair	.....
Detroit, Michigan	29 23	742.4	29.85	758.9	60	15.6	71	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Dodge City, Kansas	27.54	699.4	29.52	749.8	69	20.6	90	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Dubuque, Iowa	29.14	740.1	29.81	757.2	64	17.8	73	S	7	3.1	.....	1c	8s	W	Calm	0	0	Cloudy	.....
Duluth, Minnesota	29.05	737.9	29.69	754.1	64	17.8	89	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Eagle Pass, Texas	29.11	739.4	29.83	757.7	72	22.2	90	Calm	0	0	.....	2c	0	Calm	.....	0	0	Fair	.....
Eastport, Maine	29.87	758.7	29.93	760.2	59	15.0	82	S	3	1.3	.....	2c;hz	Haze	Calm	Calm	0	0	Hazy	.....
Edinburg, Texas	.....	.....	.....	.....	73	22.8	90	Calm	.....	.....	0	8ck	0	Calm	.....	0	0	Fair	.....
El Paso, Texas	.....	.....	.....	.....	80	26.7	58	W	5	2.2	.....	0	0	.....	.....	0	0	Clear	.....
Erie, Pennsylvania	29.18	741.2	29.88	758.9	62	16.7	72	S	3	1.3	.....	2ck	0	Calm	.....	0	0	Fair	.....
Escanaba, Michigan	29.16	740.7	29.78	756.4	64	17.8	73	SW	4	1.8	.....	8k	0	SW	.....	0	0	Cloudy	.....
Florence, Arizona	.....	.....	.....	.....	75	23.9	56	N	.....	.....	1	0	0	.....	.....	0	0	Clear	.....
Fort Craig, New Mexico	25.50	647.7	29.57	751.1	66	18.9	94	Calm	0	0	.....	5cs	0	NE	.....	0.21	5.3	Fair	.....
Fort Davis, Texas	25.20	640.1	30.16	766.1	71	21.7	63	NW	3	1.3	.....	2c	0	SE	.....	0	0	Fair	.....
Fort Gibson, Indian Ter	29.31	744.5	29.81	757.2	77	25.0	95	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	.....
Fort Griffin, Texas	28.60	726.4	29.79	756.7	80	26.7	59	N	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Fort McKavett, Texas	27.68	703.1	29.49	749.0	78	25.6	61	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	.....
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fort Sill, Indian Territory	28.64	727.4	29.69	754.1	75	23.9	85	N	6	2.7	.....	0	5s	.....	NW	0	0	Fair	.....
Fredericksburg, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galveston, Texas	29.86	758.4	29.90	759.4	81	27.2	100	NW	6	2.7	.....	.....	10n	.....	Calm	0.20	5.1	Light rain	...
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand Haven, Michigan	29.23	742.4	29.86	758.4	65	18.3	78	Calm	0	0	.....	5k	0	W	.....	0	0	Fair	.....
Indianapolis, Indiana	29.12	739.6	29.87	758.7	61	16.1	77	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Indianola, Texas	29.86	758.4	29.89	759.2	82	27.8	83	SW	3	1.3	.....	0	5s	.....	NE	0	0	Fair	.....
Jacksboro, Texas	28.74	730.0	29.79	756.7	84	28.9	79	NW	1	0.4	.....	2k	0	NW	.....	0	0	Fair	.....
Jacksonville, Florida	29.93	760.2	29.95	760.7	81	27.2	67	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Keokuk, Iowa	29.25	742.9	29.84	757.9	68	20.0	74	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	.....
Key West, Florida	29.92	760.0	29.95	760.7	83	28.3	79	SW	7	3.1	.....	3c;k	2n	Calm	SW	0.08	2.0	Fair	.....
Kittyhawk, North Carolina	29.80	759.2	29.92	760.0	72	22.2	80	NE	20	8.9	.....	0	0	.....	.....	0	0	Clear	.....
Knoxville, Tennessee	28.92	734.6	29.87	758.7	73	22.8	90	Calm	0	0	.....	.....	10s	.....	SW	0.22	5.6	Cloudy	.....
La Crosse, Wisconsin	29.04	737.6	29.73	755.1	68	20.0	74	S	6	2.7	.....	.....	10s	.....	W	0	0	Cloudy	.....
La Mesilla, New Mexico	26.02	660.9	30.17	766.3	71	21.7	75	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Cloudy	.....
Laredo, Texas	29.43	747.5	29.75	755.6	78	25.6	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Lead City, Dakota	24.97	634.2	30.24	768.1	50	10.0	72	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Leavenworth, Kansas	29.02	737.1	29.82	757.4	65	18.3	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Los Angeles, California	29.63	752.6	29.96	761 0	61	16.1	82	N	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	.....
Louisville, Kentucky	29.32	744.7	29.86	758.4	66	18.9	69	N	6	2.7	.....	0	Sm'e	.....	N	0	0	Clear	.....
Lynchburg, Virginia	29.29	744.0	29.95	760.7	67	19.4	79	NE	2	0.9	.....	0	8ks	.....	Calm	0	0	Cloudy	.....
Marquette, Michigan	29.09	738.1	29.72	754.9	68	20.0	60	W	4	1.8	.....	.....	10ks	.....	W	0	0	Cloudy	.....
Mason, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tennessee	29.57	751.1	29.87	758.7	76	24.4	86	N	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	.....
Milwaukee, Wisconsin	29.14	740.1	29.84	757.9	62	16.7	83	SW	8	3.6	.....	9ck	0	W	.....	0	0	Cloudy	.....
Mobile, Alabama	29.89	759.2	29.93	760.2	74.5	23.6	88	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
Montgomery, Alabama	29.88	758 9	29.91	759.7	79	26.1	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	.....
Morgantown, West Virginia	28.86	733.0	29.86	758.4	68	20.0	70	S	1	0.4	.....	0	8s	.....	Calm	0	0	Cloudy	.....
Mt. Washington, N. H.	23.85	605.8	30.21	767 3	42	6.1	75	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	.....
Nashville, Tennessee	29.36	745.7	29 87	758.7	72	22.2	85	Calm	0	0	.....	.....	10s	.....	W	0	0	Cloudy	.....
New Haven, Connecticut	29.87	758.7	29.98	761.5	67	19.4	79	Calm	0	0	.....	5c	Haze	Calm	Calm	0	0	Fair	.....
New London, Connecticut	29.94	760.5	29.98	761.5	66	18.9	84	Calm	0	0	.....	5cs	1s	W	Calm	0	0	Fair	.....
New Orleans, Louisiana	29.86	758.4	29.92	760.0	77	25.0	73	W	2	0.9	.....	4c;hz	0	E;Calm	.....	0.02	0.5	Fair	.....
Newport, Rhode Island	29.94	760.5	29.98	761.5	66	18.9	84	Calm	0	0	.....	5c	0	W	.....	0	0	Fair	.....
New York, New York	29.80	756.9	29.98	761.5	64	17.8	84	SW	4	1.8	.....	8cs	0	SW	.....	0	0	Fair	.....
Norfolk, Virginia	29.91	759.7	29.96	761.0	71	21.7	71	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	.....
North Platte, Nebraska	27.12	688.8	29.59	751.6	65	18.3	63	NE	24	10.7	.....	5k	5s	NW	N	0	0	Cloudy	.....
Olympia, Washington Ter.	30.08	764.0	30.12	765.0	48	8.9	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	.....
Omaha, Nebraska	28.75	730.2	29.77	756.1	70	21.1	85	SW	6	2.7	.....	2k	2s	NW	Calm	0	0	Fair	.....
Oswego, New York	29.61	752.1	29.92	760.0	62	16.7	77	S	4	1.8	.....	5ck	0	NW	.....	0	0	Fair	.....
Pembina, Dakota	28.93	734.8	29.73	755.1	58	14.4	100	NW	5	2.2	.....	.....	10s	.....	NW	0.48	12.2	Cloudy	.....
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	63	17.2	89	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	.....

UNITED STATES SERIES.—CONTINUED

STATIONS.	Barometer. Correcte for instrum'tal error and temperature. Inches.	Barometer. Correcte for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.72	729.5	.....	.....	82	27.8	56	E	.....	.....	1	5cs	0	Calm	.....	0	0	Fair	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	40	4.4	73	SW	6	2.7	.....	2ck	0	SW	.....	0.50	12.7	Clear	
Pioche, Nevada	24.15	613.4	29.92	760.0	61	16.1	66	W	6	2.7	.....	5ck	5s	S	Calm	0	0	Cloudy	
Pittsburg, Pennsylvania	29.08	738.6	29.87	758.7	59	15.0	88	NE	1	0.4	.....	5k	Fog	NW	Calm	0	0	Fair	
Port Huron, Michigan	29.22	742.2	29.87	758.7	58	14.4	82	SW	4	1.8	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	29.89	759.2	29.94	760.5	62	16.7	72	W	2	0.9	.....	2k	Haze	W	.....	0	0	Fair	
Portland, Oregon	30.02	762.5	30.12	765.0	58	14.4	88	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Prescott, Arizona	24.84	630.9	30.20	767.1	60	15.6	88	SW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.06	738.1	29.84	757.9	78	25.6	82	Calm	0	0	.....	5?k	0	Calm	.....	Inap.	Inap.	Cloudy	
Punta Rassa, Florida	29.95	760.7	29.96	761.0	82	27.8	79	N	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	
Red Bluff, California	29.53	750.0	29.88	758.9	67	19.4	59	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Rio Grande City, Texas	29.72	754.9	29.93	760.2	77	25.0	65	S	1	0.4	.....	1cs	0	Calm	.....	0	0	Clear	
Rochester, New York	29.30	744.2	29.90	759.4	60	15.6	77	SW	6	2.7	.....	1k	0	Calm	.....	0	0	Clear	
Roseburg, Oregon	29.52	749.8	30.08	764.0	56.5	13.6	90	Calm	0	0	.....	1cs	0	Calm	.....	0	0	Clear	
Sacramento, California	29.77	756.1	29.85	758.2	56	13.3	69	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.34	745.2	29.89	759.2	66	18.9	79	E	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	
St. Marks, Florida	29.93	760.2	29.95	760.7	73	22.8	95	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
St. Paul, Minnesota	28.89	733.8	29.67	753.6	64	17.8	83	SE	4	1.8	.....	2k	0	NW	.....	0.41	10.4	Fair	
Salt Lake City, Utah	25.72	653.3	30.05	763.3	62	16.7	72	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
San Antonio, Texas	29.17	740.9	29.73	755.1	77	25.0	82	Calm	0	0	.....	5ck	0	NW	.....	0	0	Fair	
San Diego, California	29.92	760.0	29.99	761.7	65	18.3	78	W	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.26	743.2	29.91	759.7	63	17.2	67	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Sandy Hook, New Jersey	29.95	760.7	29.98	761.5	72	22.2	67	NW	5	2.2	.....	8c	0	N	.....	0	0	Cloudy	
San Francisco, California	29.88	758.9	29.94	760.5	57	13.9	81	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Santa Fé, New Mexico	23.36	593.3	29.90	759.4	58	15.4	70	NW	4	1.8	.....	5k	0	Calm	.....	0.13	3.3	Fair	
Savannah, Georgia	29.86	758.4	29.95	760.7	80	26.7	91	NE	2	0.9	.....	.....	10ks	.....	Calm	0.18	4.6	Cloudy	
Shreveport, Louisiana	29.66	753.4	29.87	758.7	79	26.1	78	SW	4	1.8	.....	.....	10s	.....	Calm	0.10	2.5	Cloudy	
Silver City, New Mexico	24.33	618.0	.....	.....	64	17.8	83	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Smithville, North Carolina	29.92	760.0	29.96	761.0	74	23.3	86	N	3	1.3	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Springfield, Massachusetts	29.81	757.2	29.93	760.2	59	15.0	88	S	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Stockton, Texas	26.86	682.2	29.86	758.4	69	20.6	31	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Thatcher's Island, Mass	29.88	758.5	29.94	760.5	62	16.7	83	SW	6	2.7	.....	5c	0	SW	.....	0	0	Fair	
Toledo, Ohio,	29.23	742.4	29.88	758.9	63	17.2	67	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Tucson, Arizona	27.22	691.4	29.77	756.1	80	26.7	61	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Tybee Island, Georgia	29.91	759.7	29.94	760.5	80	26.7	91	SE	3	1.3	.....	.....	10ks	.....	E	0.03	0.8	Threatening	
Umatilla, Oregon	29.72	754.9	.....	.....	56	13.3	69	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	45	7.2	84	NW	.....	.....	4	.....	10s	.....	NW	0.41	10.4	Cloudy	
Uvalde, Texas	28.98	736.1	29.77	756.1	73	22.8	81	Calm	0	0	.....	1ck	0	Calm	.....	0	0	Clear	
Vicksburg, Mississippi	29.69	754.1	29.94	760.5	75	23.9	95	NW	4	1.8	.....	.....	10s	.....	Calm	0.70	17.8	Cloudy	
Virginia City, Montana	24.46	621.3	29.94	760.5	57	13.9	52	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.53	750.0	29.90	759.4	60	15.6	65	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.87	758.7	29.98	761.5	68	20.0	74	E	1	0.4	.....	5ck	Fog	W	E	0	0	Fair	
Wickenburg, Arizona	.....	.....	.....	.....	72	22.2	85	E	.....	.....	1	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.88	758.9	29.95	760.7	70	21.1	84	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Winnemucca, Nevada	25.68	652.3	30.04	763.0	61	16.1	71	N	10	4.5	.....	.....	10s	.....	Calm	0.05	1.3	Cloudy	
Wood's Holl, Mass.	29.94	760.5	29.99	761.7	66	18.9	84	SW	4	1.8	.....	8c;cs	0	NW	.....	0	0	Cloudy	
Yankton, Dakota	28.59	726.2	29.82	757.4	68	20.0	69	NW	8	3.6	.....	2cs	5s	NW	NW	0	0	Cloudy	
Yuma, Arizona	29.64	752.8	29.80	756.9	74	23.3	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	30.05	763.3	30.10	764.5	44.5	6.9	92	NE	10	4.5	.....	2c	1s	E	NE	0.10	2.5	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.95	760.7	29.97	761.2	80	26.7	86	SE	1.2	0.5	.....	4c	0	Calm	.....	0.72	18.3	Fair	Chas. Hasselbrink.
Santiago de Cuba, W. I.	29.96	761.0	29.99	761.7	80	26.7	86	Calm	0	0	.....	4c	8k	N	SE	Blank	Blank	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	2	0.9	.....	2c	5ks	SE	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.09	764.3	30.10	764.5	80	26.7	91	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	James Gall.
Navassa, W. I.	29.92	760.0	30.05	762.0	84	28.5	.....	NE	3.8	1.7	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	82	27.8	83	E	.....	.....	2	5k	6ks	E	.....	0.400	10.16	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.30	642.6	.....	.....	65.5	18.6	85	Calm	0	0	.....	.....	10s;ks	.....	.....	0.13	3.3	.....	Thomas Herran.

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?) m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 ft., or 526.4 m.; Concho, 1,759 ft., or 533.4 m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft., or 387.0 (?) m.; Fort McKavett, 2,050 ft., or 624.9 m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 ft., or 317.0 m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft., or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,109 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4, m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.07	763.8	80	26.7	80	26.7	87	Calm	0	0	.....	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Navy Yard, Portsmouth, N.H	29.91‡	759.7‡	.....	.....	63	17.2	72	W	2	0.9	.....	.....	5	.....	.....	0	0	.....	.....	Cloudy	
Naval Hospital, Yokohama, Japan	29.94*	760.5*	78	25.6	76.2	24.6	95	N	.....	.....	1	.....	4k;s	.....	S	3.01	76.5	.....	.....	Fair...	
Adams. S. 22° 00′, W. 176° 05′	30.12	765.0	71	21.7	69	20.6	95	SW	.....	.....	6	.....	2	.....	SW	.....	.....	Rough	S;W	Pleasant.. ...	
Alliance, Villafranca, France	29.95‡	760.7‡	.....	.....	79	26.1	82	SSE	.....	.....	0–1	.....	10	.....	S	.....	.....	.....	.....	Misty.....	
Ashuelot. Yokohoma, Japan	30.02	762.5	78	25.6	77	25.0	95	N	.....	.....	2	.....	5	.....	Calm	.....	.....	Smooth	.....	Hazy...	
Alaska, S. 44° 24′, W. 63° 19′	30.16	766.1	54	12.2	45	7.2	92	NW	.....	.....	5	.....	8	.....	N	0	0	Mod'ate	NW	D. clouds.....	
Canonicus, New Orleans, La	29.97	761.2	54	12.2	76	24.4	91	SW	.....	.....	2	.....	5	.....	.....	.....	.....	... .	.....	Fair..... ...	
Colorado, New York, N. Y	29.93‡	760.2‡	.....	.....	68	20.0	79	WNW	2	0.9	.....	.....	8	.....	NW	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.76‡	755.9‡	.....	.....	67	19.4	95	WSW	.....	.....	3	.....	6	.....	ENE	.....	.....	.....	.....	Pleasant.....	
Despatch, Constantinople, Turkey	29.89‡	759.2‡	.....	.....	73	22.8	76	SW	.....	.....	3	.....	5	.....	SW	.....	.....	.....	.....	Fair.....	
Franklin, Norfolk, Va	30.07	763.8	73	22.8	72	22.2	76	ENE	4.5	2.0	.....	.....	2	.....	E	0	0	.....	.....	Fair...	
Gettysburg Toulon, France	29.89‡	759.2‡	.....	.....	80	26.7	100	SE	.....	.....	1	.....	2	.....	Calm	0	0	.....	.....	Fair	
Hartford, Rio de Janeiro, Brazil	30.17	766.3	.....	.....	66	18.9	94	WNW	7.2	3.2	.....	.....	10	.....	WSW	0	0	.....	.....	Cloudy.....	
Marion, N. 41° 58′, E. 7° 45′	30.04	763.0	79	26.1	77	25.0	95	SSE	.....	.....	3	.....	0	.....	.....	0	0	Smooth	S	Clear.....	
Michigan, Lake Huron	29.38	746.2	70	21.1	67	19.4	74	SW	.....	.....	3	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Monocacy, Yokohama, Japan	29.93‡	760.2‡	.....	.....	78	25.6	91	NNW	.....	.....	2	.....	5	.....	NNE	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C	30.13	765.3	82	27.8	81	27.2	91	N	5	2.2	.....	.....	5	.....	NE	0	0	.....	.....	Cloudy.	
Onward, Callao, Peru	30.18†	766.6†	.....	.....	63	17.2	78	NNE	.....	.....	2	.....	8	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C	.....	.....	.....	.....	63	17.2	94	NE	.....	.....	1	.....	2	.....	NE	0	0	.....	.....	Clear..... ...	
Palos, Tientsin, China	29.97	761.2	72	22.2	70	21.1	85	ENE	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Raining	
Plymouth. New York, N. Y	30.17	766.3	68	20.0	66	18.9	84	SW	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	30.04	763.0	87	30.6	83	28.3	100	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas	29.85	758.2	75	23.9	75	23.9	95	NE	.....	.....	.....	.....	5	.....	NE	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md	29.93‡	760.2‡	.....	.....	73	22.8	72	NW	.....	.....	1	.....	2	.....	SW	0	0	.....	.....	Fair.....	
St. Louis, League Island, Pa	29.94	760.5	68	20.0	65	18.3	89	SW	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Foggy	
Supply, Havre, France	29.85	758.2	69	20.6	69	20.6	75	W	.....	.....	1	.....	2	.....	W	.....	.....	.....	.....	Clear.	
Swatara, Boston, Mass	29.94‡	760.5‡	.....	.....	65	18.3	94	W	.....	.....	2	.....	2	.....	NW	.....	.....	.....	.....	Clear.....	
Trenton, Cherbourg, France	29.73‡	755.1‡	.....	.....	71	21.7	71	SW	.....	.....	4	.....	8	.....	S;W	0.8	20.	.....	.....	Cloudy	
Tuscarora, Pichilinque Harbor, Mex	29.70	754.4	74	23.3	73	22.8	85	SSE	.....	.....	3–4	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Vandalia, Villafranca, France	29.95‡	760.7‡	.....	.....	78	25.6	86	S	.....	.....	1	.....	8	.....	S	.....	.....	.....	.....	Cloudy	
Wabash, Boston, Mass	29.95‡	760.7‡	.....	.....	70	21.1	75	W	5	2.2	.....	.....	5	.....	SW	0	0	... ...	.....	Fair	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China																			
S. S. City of New York																			Capt. Berry.
S. S. City of Panama																			Capt. Cobb.
S. S. City of Peking, N. 28° 29′, E. 127° 52′		29.91†	759.7†	80	26.7	87	NE	26	11.6		9		NE		0	Smooth		D. clouds	Capt. Seabury.
S. S. City o Sydney																			Capt. Cavarly.
S. S. City of Tokio																			Capt. Dearborn.
S. S. Colima																			Capt. Maury.
S. S. Costa Rica																			Capt. Searle.
S. S. Dakota, Olympia, W. T.		30.13†	765.3†	58	14.4	82	Calm			0		0			0			Foggy	Capt. Whitebury.
S. S. Georgia																			Capt. Morse.
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.
S. S. Zelandia																			Capt. A. Fuller.
																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 43° 19′, W. 57° 51′		29.89*	759.2*	61	16.1	94	Var.			2				SW		Slight	W	Showery	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Liverpool		29.43*	747.5*	66	18.9	64	Calm			0				N	0			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 42° 14′, W. 52° 11′		29.87†	758.7†	70	21.1	100	SW			5		10				Mod'ate	SW	Raining	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 24° 23′, E. 118° 57′		29.65*	753.1*	83	28.3	79	SW			5		lc		SW		Mod'ate	SW	Misty	Capt. L. Myer.
S. S. Gaelic, N. 37° 36′, W. 171° 10′		30.09†	764.3†	69	20.6	??	Var.			3		cs		Var.	0	Very heavy	NW	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 46° 10′, W. 150° 00′		29.88	758.9	56	13.3	100	S			4		0				3	SW	Blue sky	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 47° 00′, W. 40° 37′		30.18	766.6	64	17.8	??	S			2		2		S	0	Mod'ate	N	Fine	Capt. T. H. Lamke.
S. S. Braunschweig, N. 40° 57′ W. 67° 57′		30.00	762.0	65	18.3	73	Calm			0		2		NW	0	1	NW	Fair	Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	TRUE COURSE TOWARD—	BAROMETER REDUCED TO SEA-LEVEL.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND.				CLOUDS.				RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.	SEA-SWELL		WEATHER.	OBSERVER.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Lo'wr	Upper.	Lower.					
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—		CHARACTER.	DIRECTION FROM—		
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 48° 33', W. 40° 22'		30.08*	764.0*	48	8.9	85	SSW			2		2		NE	Light	Smooth	N	Clear	Captain Sargent.
S. S. Ohio, N. 44° 15' W. 46° 52'		30.05	763.3	68	20.0	90	SE			2		77		Calm	0	None		Clear?	Captain Morrison.
S. S. Pennsylvania, Liverpool		29.61†	752.1†	66	18.9	100	WNW			2		6		WNW	Blank			Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, Near Cape Walsingham		29.44*	747.8*	39.1	3.9		SSE			5		10s			0.95 in or 24.1 mm.			Raining	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 28, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.

1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.

1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.95	760.7	86.9	30.5	78	N			1		2			0	0	Fair	Kesxuche.
Algiers			29.90	759.5	97.2	36.2	36	ENE			1		0			0	0	Clear	Tourillere.
La Calle			30.05	763.2	82.6	28.1	81	ENE			3		1			0	0	Very fair	Foufrede.
Tunis			30.08	763.9															Jacques.
Sfax			30.16	766.0	89.6	32.0		S			1		0			0	0	Clear	Gau.
Saida			30.12	765.0	95.0	35.0	76	S			1		1			0	0	Very fair	Herbin.
Tebessa			30.07	763.8	92.3	33.5		SW			1		1			0	0	Very fair	Watrin.
Geriville			30.14	765.5	93.7	34.3	27	S			2		3			0	0	Pretty fair	Brugniaux.
Laghouat			30.18	766.6	96.8	36.0	22	Calm			0		0			0	0	Clear	Bertrand.
Biskra			30.09	764.3	103.1	39.5	27	SE			1		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made. The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1,088? m., or 3,569.4? ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	747.1	29.93	760.3	81.0	27.2	63	SW			1	0				0	0		Prof. Ivan Stoza.
Cracow, I. R. Observatory	29.16	740.6	29.90	759.4	71.2	21.8	72	W			1	6				0	0		Dr. Wierzbiski
Eperies	29.05	737.9	29.89	759.3	73.8	23.2	73	Calm			0	10k;s				0	0		Julius Mikolik.
Gratz	28.70	728.9	29.89	759.3	75.7	24.3	74	S			2	5				0.004	0.10		Andreas Rospini.
Hermannstadt	28.66	728.5	29.91	759.8	76.1	24.5	40	WNW			3	4				0	0		Prof. Reissenberg
Kremsmünster	28.66	728.0	29.92	760.0	69.4	20.8	77	W			2	5k				0.217	5.5		Prof. C. Wagner
Lemberg	28.90	734.1	29.85	758.3	68.0	20.0	72	NW			3	8				0	0		Dr. T. Stanecki.
Pola	29.89	759.1	29.99	761.8	81.7	27.6	75	ESE			3	4ks				0	0		I.R.Hydrographic Office
Szathmar	29.53	50.0	29.93	760.3	75.2	24.0	53	SW			1	9				0.071	1.8		Johann Tamas, S. J.
Szegedin											4								Karl Stancel.
Trieste	29.92	759.9	30.02	762.5	82.4	28.0	62	W			1	1				0	0	Almost clear	P. Busin.
Vienna	29.27	743.4	29.95	760.7	77.0	25.5	37	WSW			3	2				0.043	1.1		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.45	722.7	29.92	760.0	64.6	18.1	68	WSW			2	6				0.087	2.2		Prof. M. Passau.
Brussels	29.68	753.8	29.87	758.7	69.8	21.0	67	WSW			6	3	WSW	WSW		0.122	3.10		Royal Observatory
Furnes	29.87	758.6	29.89	759.2	63.5	17.5	87	SSW			6	8				0.205	5.2		M. E. de Cae.
Maeseyck	29.78	756.3	29.90	759.5	70.7	21.5	64	SSW			6	7				0.421	10.7		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.54	750.3	29.64	752.8	61.0	16.1	.....	NNW	6	2.7	.....	.....	7	.....	.....	Blank	Blank	D. clouds.. ..	W. Boswell.
Ardrossan	29.58	751.3	29.60	751.8	65	18.3	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	Blue sky.....	George Carrick.
Armagh, Observatory	.....	.....	29.68	753.9	65.4	18.6	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	D. clouds.....	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.65	753.1	62.9	17.2	.....	NW	8	3.6	.....	.....	4	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	29.52	749 8	29.71	754.6	64.6	18.1	.....	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	D. clouds.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.26	743.2	29.65	753.1	66.0	18.9	.....	SW	.....	.....	2	.....	4	.....	.....	0.09	2.3	D. clouds.....	J. McLandsborough.
Bridgetown, (Barbados)	29.97	761.2	30.00	762.0	83	28.3	.....	NE	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.72	754.9	70.0	21.1	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	Threatening	H. Todd. [H. C.
Cardington	.....	.....	29.73	755.1	69.0	20.6	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	John McLaren.
Chatham, School M. E	29.65	753.1	29.78	756.4	69.2	20.7	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	Lt. W. G. Morris, R. E.
Dartmoor	28.34	719.8	29.78	756.4	60.0	15.6	.....	W	.....	.....	3	.....	8	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.62	752.3	29.65	753.1	63	17.2	.....	WNW	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	J. Mac Gowan.
Dover	29.80	756.9	29.81	757.2	66	18.9	.....	WSW	.....	.....	5	.....	3	.....	.....	.....	.....	¾ clouded...	J. Costello.
Eccles, (near Manchester)	.....	.....	29.63	752.6	71.6	22.0	.....	SSW	5.6	2.5	.....	.....	6	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.60	751.8	29.82	757.4	67.4	19.7	.....	WSW	.....	.....	3	.....	2	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.56	700.0	29.85	758.2	77.0	25.0	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.67	753.6	29.90	759.4	85	29.4	.....	W	.....	.....	2	.....	4	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.68	753.9	66	18.9	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	Gloomy	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.86	758.4	29.91	795.7	.....	.....	.....	W	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.40	746.7	29.60	751.8	67.7	19.8	.....	W	.....	.....	3	.....	.....	.....	.....	.....	.....	Blue sky.....	D. G. Maclean.
Great Yarmouth	29.72	754.9	29.73	755.1	69	20.6	.....	SW	.....	.....	3	.....	5	.....	.....	.....	.....	D. clouds.....	G. T. Watson.
Greenwich, Royal Obs'y	29.60	751.8	29.76	755.9	68.6	20.3	.....	SW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast.....	The Staff, for G. B. Airy.
Guernsey	29.65	753.1	29.87	758.7	66	18.9	.....	WSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.85	758.2	70	21.1	.....	SW	.....	.....	2	.....	2ck	.....	.....	0.28	7.1	Fine	M. P. Moyle.
Holyhead	29.65	753.1	29.70	754.4	61	16.1	.....	WNW	.....	.....	3	.....	10	.....	.....	Blank	Blank	Misty.....	John Tilston.
Jersey	29.63	752.6	29.91	759.7	66.4	19.1	.....	W	.....	.....	3	.....	7	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.76	755.9	67.0	19.4	.....	SW	17	7.6	.....	.....	8	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.67	753.6	29.70	754.4	62	16.7	.....	WNW	.....	.....	4	.....	4	.....	.....	.....	.....	D. clouds.....	George Mitchell.
Leicester, Museum	.....	.....	29.68	753.9	67.7	19.8	.....	SW	.....	.....	3	.....	7	.....	.....	.....	.....	D. clouds.....	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.98	761.5	30.05	763.3	81.6	27.6	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.57	751.1	29.64	752.8	62	16.7	.....	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	29.98	761.5	84.5	29.2	.....	SW	.....	.....	0	.....	8	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.48	748.8	29.66	753.4	67.1	19.5	.....	S.	.....	.....	4	.....	10ks;k;	d].....	SW	0.332	8.43	Overcast	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.15	740.4	29.65	753.1	67.9	19.9	.....	SW	.....	.....	6–7	.....	9	.....	.....	.....	.....	D. clouds.....	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.74	755.4	66	18.9	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	H. E. Bellamy.
Plymouth	29.73	755.1	29.80	756.9	68.0	20.0	.....	SW	.....	.....	4	.....	2	.....	.....	.....	.....	D. clouds.....	John Merrifield.
Roche's Point	29.67	753.6	29.71	754 6	66	18.9	.....	SW	.....	.....	4	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.58	751.3	29.74	755.4	63	17.2	.....	W	.....	.....	4	.....	1	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.66	753.4	58	14.4	.....	N	12	5.4	.....	.....	10	.....	.....	.....	.....	Showery	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.91	759.7	80.6	27.0	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.40	746.7	29.67	753.6	72.1	22.3	.....	SSW	.....	.....	2	.....	4	.....	.....	0	0	D. clouds.....	W. F. Cooper.
Silloth Rectory	29.60	751.8	29.63	752.6	70.2	21.2	68	SW	.....	.....	1	.....	2	.....	.....	0.035	0.89	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.26	743.2	29.66	753.4	64.4	18.0	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.69	751.8	29.63	752.6	58	14.4	.....	NE	.....	.....	4	.....	10	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.53	750.0	60	15.6	.....	NW	.....	.....	2	.....	9	.....	.....	.....	.....	Overcast.....	John Trotter.
Truro, Royal Institution	.....	.....	29.82	757.4	72	22.2	.....	SW	.....	.....	6	.....	6	.....	.....	.....	.....	D. clouds.....	W. Newcombe.
Valencia, Observatory	.....	.....	29.73	755.1	63.1	17.3	.....	NW	8	3.6	.....	.....	5	.....	.....	Blank	Blank	D. clouds.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.62	752.3	58	14.4	81	W	.....	.....	2	.....	10n	.....	.....	0.35	8.9	Covered	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.90	759.4	30.09	764.2	73.9	23.3	80	S	3.5	1.6	.....	0	10	.....	.....	0.16	4.1	Showery... .	C. Meldrum.
Melbourne, Observatory	29.80	756.9	29.90	759.4	48.2	9.0	88	W	15	6.7	.....	.....	10	.....	.....	0.69	17.5	Showery.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway. Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell: Height scale 0–9	Sea or swell: Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 43° 10′, W. °61 35′	2	.....	Blue sky.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith, N. 49° 20′, W. 7° 45′	8	Conf'd	Misty.....	Capt. D. W. A. Quaile
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson. [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
.....	.....	.....	.....	.....

Note.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeter	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mr. Ansart.
San José	26.33	668.8	.....	.....	67.6	19.8	92	SE	.....	.....	2	4ks	.....	.....	.....	0.6	15.	.....	Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.65	753.0	29.69	754.2	65.8	18.8	81	SW	.....	.....	2	.....	10	.....	.....	.....	.....	.....
Fanöe	29.62	752.4	29.64	752.9	65.1	18.4	80	WSW	.....	.....	6	.....	8	.....	.....	.....	.....	.....
Godthaab, (Greenland)	29.50	749.4	29.55	750.5	45.9	7.7	75	S	.....	.....	7	.....	9	.....	.....	.....	.....	.....
Stykkisholm, (Iceland)	29.92	760.0	29.97	761.1	50.7	10.4	80	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....
Thorshavn, (Faröe)	29.79	756.7	29.83	757.6	54.1	12.3	62	NNE	.....	.....	2	.....	5	.....	.....	.....	.....	.....
Vestervig	29.42	747.3	29.59	751.6	60.8	16.0	79	SW	.....	.....	4	.....	6	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.43	747.6	29.98	761.6	71.2	21.8	72	SW	.....	.....	4	.....	10	.....	.....	0	0	Covered	Collignon, Director.
Amiens, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bonvallet, Director.
Avignon, Normal School	29.94	760.4	30.02	762.4	88.3	31.3	58	S	.....	.....	1	.....	0	.....	.....	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.45	747.9	29.98	761.5	73.2	22.9	71	SW	.....	.....	1	.....	8cs	.....	W	0	0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Albert Cheux.
Beauvais, Normal School	29.67	753.7	29.95	760.6	72.5	22.5	62	SSW	.....	.....	3	.....	8	.....	WSW	0.008	0.20	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.18	741.2	30.04	763.1	76.1	24.5	88	SSW	.....	.....	2	.....	1	.....	E	0.020	0.5	Clear	Normal School.
Bourg-en-Bresse, N. School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Marlot, Director.
Bourges, Normal School	29.46	748.3	29.99	761.8	76.6	24.8	85	SSW	.....	.....	1	.....	1	.....	W	0	0	Clear	A. Wagner, Director.
Brest, Naval Observatory	29.62	752.3	29.86	758.5	71.6	22.0	72	SW	.....	.....	3	.....	4	.....	SW	0	0	.....	The Staff.
Carcassonne, Normal School	29.59	751.6	29.98	761.5	84.9	29.4	62	E	.....	.....	2	.....	2	W	.....	0	0	Slightly cl'dy	Septembre, Director.
Caen	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Normal School.
Chartres, Normal School	29.18	741.2	29.73	755.2	72.9	22.7	83	SW	.....	.....	4	.....	3	.....	N	0.12	3.	.....	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'	29.64	752.8	29.95	760.6	68.4	20.2	68	SW	.....	.....	3	.....	10	SW	SW	0	0	Covered	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.67	728.1	29.95	760.6	81.7	27.6	63	NE	.....	.....	1	.....	.....	.....	SW	0.031	0.8	.....	Alluard, Director.
Commercy, Normal School	29.17	740.9	30.02	762.6	68.0	20	76	W	.....	.....	4	.....	8kn	.....	W	0	0	Very cloudy	Dr. Coulet, Director.
Commune de Gréasque*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Kina.
Grenoble, Normal School	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Ablard, Director.
La Roche-sur-Yon, N. School	29.80	757.0	30.01	762.3	69.6	20.9	80	SW	.....	.....	3	.....	5	.....	SW	0	0	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.62	752.4	29.92	760.0	71.6	22	96	SW	.....	.....	1	.....	5	.....	SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.24	742.8	30.12	765.1	78.1	25.6	69	SW	.....	.....	2	.....	.....	.....	SW	0.213	5.40	.....	Baudry, Director.
Lorient, Naval Observatory	29.87	758.8	29.97	761.2	70.9	21.6	72	SW	.....	.....	3	.....	8	.....	SW	0	0	¾ covered	T. Carré, Director.
Mâcon, Normal School	30.16	766.1	30.19	766.9	73.6	23.1	93	W	.....	.....	1	.....	0	.....	.....	0.201	5.1	Clear	M. Galzin, Director
Mirecourt, Normal School	28.93	734.7	29.89	759.2	71.8	22.1	66	SW	.....	.....	3	.....	5ck	.....	W	0	0	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.96	760.9	30.13	765.2	87.4	30.8	54	S	.....	.....	6	.....	0	.....	.....	0	0	Clear	Boyer, Director.
Privas, Normal School	29.02	737.0	30.02	762.6	83.5	28.6	68	S	.....	.....	1	.....	1	N	S	0	0	Clear	M. Cantier.
Puy de Dome (Summit)	25.29	642.4	.....	.....	61.5	16.4	94	W	.....	.....	1	.....	.....	.....	SW	0.134	3.4	.....	Alluard, Director.
Rochefort, Naval Obs'y	29.97	761.3	30.09	762.1	78.8	26.0	67	SW	.....	.....	1	.....	0	.....	.....	0	0	Clear	M. Giguel, Director.
Rouen, Normal School	29.83	757.7	29.91	759.8	72.7	22.6	57	SSW	.....	.....	2	.....	5	.....	SW	0.063	1.6	Cloudy	F. Lucard, Director.
Saint Malo (Port)	.....	.....	29.78	756.5	72.0	22.2	56	SW	.....	.....	3	.....	5	.....	SW	0.236	6.00	Cloudy	M. H. Hercouet.
Tarbes, Normal School	28.85	732.9	29.90	759.5	69.8	21	73	SW	.....	.....	2	.....	5	.....	W	0	0	Cloudy	T. Huguet, Director.
Villefranche-sur-Saone, N.S.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.92	760.0	29.95	760.7	82.4	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	.....	L'Abbé Marchés.
Lyons	.....	.....	30.00	761.9	75.0	23.9	56	.....	.....	.....	.....	.....	7	.....	.....	0.094	2.4	.....	L. Jays.
Marseilles, Observatory	.....	.....	30.02	762.4	82.0	27.8	69	SW	.....	.....	0-1	.....	2	.....	.....	0	0	.....	The Staff.
Mont-Louis	25.04	636.0	30.35	771.0	78.4	25.8	15	S	24.2	10.83	.....	.....	3	.....	SW	0	0	.....	M. Cave.
Nice	.....	.....	30.08	763.9	79.3	26.3	84	E	.....	.....	1	.....	3	.....	.....	0	0	.....	Dr. A. Niepce.
Paris, Montsouris Obs'y	29.69	754.0	29.96	761.0	68.0	20.0	68	SW	.....	.....	3	.....	10	.....	W	0	0	.....	Marié Davy, Director
Perpignan	.....	.....	30.02	762.4	80.2	26.8	74	SE	7.4	3.33	.....	.....	8	.....	E	0	0	.....	Dr. Fines.
Pic du Midi, (Summit,) H. P.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.76	578.2	.....	.....	69.3	20.7	.....	W	.....	.....	8	.....	4	.....	.....	0	0	Fair	Gen'l de Nansou y
Saint Maur, (near Paris)	29.82	757.3	29.98	761.5	68.2	20.1	71	W	.....	.....	2	.....	10	.....	W	0.004	0.1	Covered	E. Renou.
Toulouse, Observatory	29.28	743.6	30.00	761.9	85.6	29.8	48	SE	.....	.....	4	.....	4	.....	.....	0	0	.....	The Staff.
Tours	29.78	756.3	29.97	761.3	74.5	23.6	60	SW	.....	.....	1	.....	5	.....	W	0	0	.....	C. Marquet.
Versailles	.....	.....	29.98	761.5	69.4	20.8	91	SW	.....	.....	2	.....	8	.....	.....	0.007	0.17	Fair	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.77	756.1	29.80	756.8	72.7	22.6	100	SW	3.4	1.5	.....	.....	10	.....	.....	0.654	16.6	Covered	Marc Decheyrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.02	737.0	29.85	758.2	70.9	21.6	73	S			2		6	SW		0.04	1.	Raining	Prof. Dr. Hoh.
Berlin	29.65	753.1	29.82	757.3	72.7	22.6	56	W			1		5			0.071	1.8		Prof. Arndt.
Breslau	29.37	745.9	29.89	759.3	74.5	23.6	83	W			2		5			0	0		Royal University Obs'y
Carlsruhe	29.55	750.6	29.97	761.1	72.0	22.2	68	SW			2		9			0.043	1.1		Albert Senz.
Cassel	29.30	744.2	29.90	759.5	74.8	23.8	48	W			2		5	SW		0	0		Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	73.0	22.8	55	SW			5		6k			0.08	2.		Director Lose.
Emden	29.67	753.5	29.71	754.5	69.4	20.8	69	NW			3		2			0.453	11.5	Lightning	Prof. Prestel.
Frankfort on the Main	29.58	751.4	29.93	760.3	74.8	23.8		WSW			2		7			0.114	2.9		Physical Society.
Friedrichshafen	28.62	726.9	30.00	761.9	73.4	23.0	79	SSE			1		7	SSW		0.413	10.5		M. Wilhelm.
Hamburg	29.70	754.3	29.76	756.0	68.4	20.2	76	W			5		5ck	WSW		0.382	9.7	Showery	Captain F. Hegemann.
Kiel	29.71	754.5	29.72	754.9	68.4	20.2	68	WSW			4		6			0.059	1.49		Prof. G. Karsten.
Königsberg, (Prussia)	29.68	753.8	29.76	755.8	68.7	20.4	73	NW			2		4			0.551	14.0		Prof. E. Luther.
Köslin			29.72	755.0	70.7	21.5		SW			2		4			0.322	8.2		H. Müller.
Leipsic, Observatory	29.48	748.7	29.88	759.0	73.8	23.2	58	WSW			4		7	WSW		0.004	0.1		Prof. Bruhns.
Memel, Naval School	29.70	754.4	29.75	755.6	63.3	17.4	92	NW			2		1k						Reinbrecht and Skalweit.
Neufahrwasser	29.78	756.3	29.79	756.7	72.0	22.2	72	WSW			3		9			0.457	11.6		A. Lothes.
Posen	29.58	751.3	29.85	758.3	76.6	24.8	57	S			6		9			0.039	1.0		Dr. Magener.
Strassburg (in Alsace)	29.48	748.7	30.00	762.1	75.2	24.0	59	W			4		9	W		0.008	0.21		Astronomical Observatory.
Stuttgart	29.06	738.1	29.96	760.9	74.8	23.8	52	W			1		9	W		0	0		Prof. Schoder.
Treves, (Trier)	29.40	746.8	29.92	760.0	73.0	22.8	50	W			6		7			0	0		Prof. Flesch.
Weissenburg, (Bavaria)	28.51	724.1	29.97	761.2	71.4	21.9	60	W	1.8	0.8			8ck		W	0.571	14.5		Dr. Von Bebber.
Wustrow, Naval School	29.75	755.6	29.79	756.6	65.3	18.5	90	SW			3		8			0.059	1.5		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.59	751.5	29.96	760.9	88.9	31.6		S			2.5							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.25	743.0	29.72	755.0	86.0	30.0	74	SW					0			0	0	Blue sky	
Bombay	29.70	754.4	29.75	755.6	82.4	28.0	89	NW	13	5.8			10		SW	0.24	6.1	Raining	
Poona	27.73	704.3	29.72	754.9	78.2	25.7	82	W					10		W	0.05	1.3	Overcast	
Lahore	28.90	733.9	29.63	752.5	86.2	30.1	74	E	3.3	1.5			8			0	0	D. clouds	
Belgaum	27.23	691.7	29.77	756.1	74.8	23.8	88	W	3	1.3			10		W	0.07	1.8	Overcast	
Roorkee	28.79	731.2	29.69	754.1	77.4	25.2	91	Calm	0.1	2.7			5			1.93	49.0		
Agra	29.12	739.5	29.67	753.6	85.7	29.8	76	NE					9		NE	0	0		
Nagpur	28.69	728.7	29.73	755.1	80.1	26.7	81	Calm	3.5	1.6			10		E	2.88	73.2	Raining	
Lucknow																			
Allahabad	29.36	745.9	29.67	753.7	82.7	28.2	88	Calm	1.2	0.5			9		E	0.39	9.9	D. clouds	
Patna	29.54	750.2	29.72	754.8	80.7	27.1	96	E	2.1	0.9			10	E	E	2.18	55.4	Thunder-storm	
Hazaribagh	27.72	704.2	29.74	755.5	74.8	23.8	93	SE	9.3	4.2			10			0.25	6.3	Drizzling	
Cuttack	29.66	753.2	29.74	755.3	85.0	29.4	76	SE	2.6	1.2			3			0	0	D. clouds	
Calcutta (Alipore)	29.74	755.4	29.76	755.9	83.7	28.7	83	S	4.0	1.8			7	E		0	0	D. clouds	
Goalpara	29.42	747.2	29.81	757.2	76.4	24.7	88	ENE	16.9	7.6			9			6.66	169.2	D. clouds	
Chittagong	29.72	754.9	29.81	757.2	81.9	27.7	87	Calm	3.3	1.5			3			0	0		
Sibsagar	29.50	749.4	29.84	758.0	80.1	26.7	85	NNW	3.9	1.7			10			0.06	1.5	D. clouds	
Jubbulpore	28.38	720.8	29.75	755.6	75.8	24.3	93	SE	2.2	1.0			10			0.64	16.3	Drizzling	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.4	30.02	762.4	78.8	26.0	66	SE	1.8	0.6	.....	.....	3	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.89	759.2	30.00	761.9	83.3	28.5	55	WNW	2.5	1.1	.....	.....	4	WSW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.80	756.9	29.98	761.6	85.3	29.6	53	S	4.9	2.2	.....	.....	3	N	.....	0	0	.....	Cont. Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	29.49	749.0	29.99	761.7	82.2	27.9	63	NNW	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.12	739.7	29.99	761.8	80.4	26.9	62	ESE	1.8	0.8	.....	.....	8	NE	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.16	715.2	29.99	761.7	77.4	25.2	66	N	.....	.....	4	.....	8	.....	.....	.....	.....	.....	Prof. D. C. Bruno.
Porto Maurizio	29.86	758.4	30.07	763.8	79.7	26.5	73	SW	.....	.....	2	.....	9	SW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.90	759.5	30.07	763.7	77.2	25.1	76	S	.....	.....	2	.....	6	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.67	753.5	29.97	761.2	84.9	29.4	48	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.80	756.9	30.05	763.2	86.0	30.0	39	NW	.....	.....	2	.....	0	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.95	760.6	30.03	762.7	81.0	27.2	68	SSW	4.9	2.2	.....	.....	0	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.55	725.1	30.03	762.8	83.1	28.4	43	SW	.....	.....	1	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.89	759.3	30.07	763 6	86.7	30.4	48	S	11.2	5.0	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.90	759.4	30.09	764.3	83.3	28.5	56	SW	.....	.....	4	.....	1	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.82	757.3	30.07	763.6	82.9	28.3	43	NNE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.85	758.1	30.04	762.9	84.0	28.9	70	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.17	741.0	30.02	762.4	87.8	31.0	59	NE	1.8	0.8	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.85	758.1	30.10	764.4	83.5	28.6	46	ENE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.02	762.5	30.10	764.5	83.1	28.4	59	E	.....	.....	1	.....	1	SW	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.58	751.2	30.13	765.3	83.3	28.5	60	SSW	1.8	0.8	.....	.....	1	S	.....	0	0	.....	Prof. F. Brioschi.
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.58	751.3	29.78	756.4	76.5	24.7	88	SW	0.2	0.1	.....	.....	0	.....	.....	0	0	Fair	
Tokei (Yeddo) Observatory	29.77	756.1	29.84	757.9	76.0	24.4	95	E	4.0	1.8	.....	.....	2s	.....	.....	0.110	2.79	Clear	I. Arai, Director.
Tokei (Yeddo) University	29.73	755.1	29.82	757.5	76.1	24.6	100	ENE	4.5	2.0	.....	.....	.....	.....	.....	0.23	5.8	Clear	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	63.0	17.2	91	N	0.9	0.4	.....	8ck	2s	E	.....	0.75	19.0	Very cloudy	L. Castillo, A. E.
Guadalajara	25.10	637.5	30.05	763.2	59.9	15.5	90	W	1.8	0.8	.....	0	9ks	.....	N	Inap.	Inap.	Very cloudy	Prof. L. Perez.
Guanajuato	23.72	602.6	29.87	758.7	62.2	16.8	84	Calm	0	0	.....	0	9	.....	E	0.63	16.0	Very cloudy	Prof. V. Fernandez
Leon	24.47	621.6	30.01	762.3	62.6	17.0	94	SW	0.9	0.4	.....	0	10n	.....	.....	0.57	14.5	Covered	Prof. M. Leal.
Mexico	23.14	587.6	30.12	764.9	58.1	14.5	90	Calm	0	0	.....	0	10n	.....	.....	1.08	27.5	Raining	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	61.9	16.6	89	W	0.9	0.4	.....	3c	2s	.....	.....	0	0	½ cloudy	M. V. de Leon, M. E.
Puebla	23.39	594.0	30.04	763.1	55.2	12.9	90	E	2.5	1.7	.....	0	10kn	.....	.....	0.18	4.7	Covered	Prof. B. Gonzalez.
Tlacotalpam	29.91	759.7	29.92	760.0	81.5	27.5	77	S	5.1	2.3	.....	4c	3n	S	E	0	0	Threatening	Prof. F. R. Bayly.
San Luis Potosi	24.23	614.7	30.10	764.5	61.0	16.1	56	SE	0.9	0.4	.....	6	4	N	SE	0.07	1.7	Cloudy	G. Barroeta, M. D.
Vera-Cruz	29.91	759.7	29.94	760.4	80.6	27.0	84	Calm	0	0	.....	0	10kn	.....	.....	0.56	14.2	Covered	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	55.4	13.0	90	E	0.9	0.4	.....	0	10	.....	SE	0.28	7.0	Dark	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.36	593.3	30.14	765.7	51.5	12.5	80	NE	0.9	0.4	.....	4	8	.....	.....	0.08	2.0	Cloudy	Prof. P. Spina, [M.M.D.D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	NE	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.39	721.2	30.03	762.7	77.4	25.2	87	E	0.9	0.4	.....	0	8	.....	S	0.22	5.5	Cloudy	R. Banda, C. E.
San Juan E. Michapam	29.68	753.9	29.83	757.6	77.7	25.4	.....	E	5.1	2.3	.....	1ck	9s	.....	.....	0	0	Covered	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.85	758.3	29.85	758.3	66.9	19.4	.....	WSW	.....	.....	4	.....	.....	.....	.....	0.307	7.8	.....	
Groningen	29.71	754.7	29.77	756.1	67.3	19.6	.....	W	.....	.....	4	.....	.....	.....	.....	0.295	7.5	.....	
Helder	29.76	755.8	29.76	755.8	66.7	19.3	.....	SW	.....	.....	4	.....	.....	.....	.....	0	0	.....	
Hellevoetsluis	29.90	759.5	29.90	759.5	66.0	18.9	86	SW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.80	756.8	29 84	758.0	68.2	20.1	76	SW	.....	.....	4	.....	5	.....	.....	0.232	5.9	Cloudy	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced sea-level. Inches.	Barometer: Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.54	750 3	29.60	751.7	66.2	19.0	63	NNW	9.4	4.2	.....	.....	1	.....	.....	0	0	.....	
Brönö	29.63	752.5	29.67	753.5	61.9	16.6	69	Calm	0	0	.....	.....	8	.....	.....	0	0	.....	
Christiania	29.47	748.6	29.61	752.2	68.2	20.1	74	WSW	7	3	.....	.....	1	.....	.....	0	0	.....	
Tromsö	29.65	753.0	29.69	754.1	47.8	8.8	87	NNE	9	4	.....	.....	10	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	29.95	760.6	30.13	765.4	67.1	19.5	77	N	9.8	4.4	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	28.93	734.9	29.89	759.1	93.2	34.0	21	WSW	9.4	4.2	.....	.....	10	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.90	759.5	29.99	761.7	78.6	25.9	74	SE	3.1	1.4	.....	.....	10	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.57	751.0	29.88	758.9	81.3	27.4	58	SW	17.4	7.8	.....	.....	9	SSW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.05	763.2	30.12	765.0	70.5	21.4	59	N	6.3	2.8	.....	.....	5	.....	.....	0.280	7.1	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell: Height scale 0-9	Sea or swell: Direction from—																	
Bartholomew Dias																			R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 38′, W. 16° 55′			30.02	762.6	79.3	26.3	.....	WNW	.....	.....	3	.....	2	.....	N	2	.....	Blue sky	A. M. de Sande, Com'd.
India																			A. D. Pedroso, Com'd.
Mindello																			J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′			30.04	763.0	71.2	21.8	.....	WSW	.....	.....	2	.....	4	.....	WSW	2	W	D. clouds	A. J. de Mattos, Com'd't
Rio Douro																			J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′			30.00	762.1	84.0	28.9	.....	NNE	.....	.....	3	.....	5	.....	NE	2	NNE	D. clouds	L. Ribeiro da Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′			29.98	761.5	77.0	25.0	.....	WNW	.....	.....	1	.....	9	.....	E	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo																			E. Ivos do Rio.

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.43	747.6	29.84	758.0	69.6	20.9	67	WSW	11	5	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.24	742.6	29.64	752.8	68.5	20.3	77	SSE	2	1	.....	.....	9	.....	.....	.....	.....	Heavy clouds...	Astronomical Obs.
Dorpat	29.51	749.6	29.75	755.6	63.1	17.3	93	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	.....	Prof. Dr. Weihrauch.
St. Petersburg	29.81	757.1	29.82	757.5	65.3	18.5	73	SSE	4	2	.....	.....	10n	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio																			Ch. Forsten.
Kieff	29.15	740.5	29.76	755.8	74.1	23.4	40	Calm	0	0	.....	.....	2ck	.....	.....	.....	.....	Light clouds	Physical Cabinet.
Nikolaiev	29.74	755.5	29.82	757.3	74.8	23.8	61	NNW	4	2	.....	.....	7cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.80	756.8	29.82	757.3	77.0	25.0	72	S	7	3	.....	.....	6	.....	.....	.....	.....	.....	Lagorio.
Moscow	29.49	749.0	30.02	762.5	71.2	21.8	50	S	13	6	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.61	752.1	29.81	757.2	63.9	17.7	88	E	9	4	.....	.....	10	.....	.....	Blank	Blank	.....	Meteorological Obs
Archangel	29.56	750 8	29.58	751 3	64.6	18.1	71	SE	4	2	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.47	723.0	29.80	756.8	85.6	29.8	37	NNE	22	10	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.97	761.1	29.88	759.0	74.8	23.8	57	ENE	13	6	.....	.....	10s	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*																			Cand. Fatjanow.
Kasan	29.89	759.2	30.15	765 9	66.0	18.9	51	Calm	0	0	.....	.....	7	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg																			Tschernischef.
Ekaterinburg	28.93	734.7	29.87	758.6	52.3	11.3	51	NW	31	14	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.80	756.8	30.02	762.5	75.0	23.9	33	NNW	16	7	.....	.....	0	.....	.....	.....	.....	.....	
Tashkend	28.34	719.7	29.98	761.4	74.1	23.4	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.18	741.2	29.69	754.1	59.9	15.5	43	SE	0	0	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.44	747 8	29.72	754.8	68.7	20.4	74	WSW	7	3	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk																			Usolzef.
Peking, (China)	29.62	752.4	29.76	756.0	70.5	21.4	89	Calm	0	0	.....	.....	5cs	.....	.....	.....	.....	Lightning	Physical Observatory.
Nertchinsk																			Meteorological Obs.
Vladivostock																			
Nikolaievsk, on the Amoor																			

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761 7	81.5	27.5	77	SE	1.4	0.61	.....	.....	8	.....	.....	0	0	Misty..	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.83	757.7	29.89	759.1	80.4	26.9	70	SE	2.0	0.89	.....	3	6	SW	.....	0	0	Almost cov'd	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.09	688.2	.....	.....	90.1	32.3	46	SW	10.8	4.83	.....	.....	9	.....	.....	0	0	Almost cov'd	Domingo Martin y Perez
Madrid, Royal Observatory	27.78	705.5	29.79	756.6	105.3	40.7	19	SW	6.7	3.00	.....	0	4	.....	.....	0	0	Cloudy	The Staff.
Murcia, Met. Obs'y	29.82	757.4	29.96	760.9	104.2	40.1	21	SSW	4.0	1.81	.....	.....	.....	.....	.....	0	0	Clear.	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.91	734.4	29.78	756.4	69.3	20.7	95	SSW	11.2	5.00	.....	8	0	SW	.....	0	0	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.95	760.7	30.01	762.3	78.6	25.9	89	S	4.5	2.0	.....	7ck	0	SE	.....	0.701	17.8	Fair	Benito Vines, S. J.
Manilla, Philippine Islands,																			Federico Faura, S. J.
San Fernando, Naval Obs'y	29.85	758.1	29.94	760.5	86.7	30.4	45	NW	11.7	5.3	.....	0	10	.....	SSW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.5	30.03	762.8	79.2	26.2	95	SE	0	0	.....	3s	2ks	SE	SE	0	0	.....	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.67	753.6	29.71	754.6	57.9	14.4	.....	S	.....	.....	2	.....	8	.....	.....	0	0	.....	
Umea	29.60	751.8	29.65	753.1	56.8	13.8	92	SSW	.....	.....	4	.....	10	.....	.....	0.031	0.8	.....	
Hernosand	29.54	750.3	29.59	751.6	60.6	15.9	86	S	.....	.....	2	.....	7	.....	.....	0.571	14.5	.....	
Stockholm	29.52	749.8	29.70	754.3	61.9	16 6	85	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Wisby	29.67	753.5	29.72	755.0	61.9	16.6	88	NNW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.61	752.0	29.68	753.9	65.8	18.8	80	SE	7.4	3.3	.....	.....	9	.....	W	0.004	0.11	.....	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	29.96	760.9	83.8	28.8	54	WNW	.....	.....	2	.....	1	.....	.....	0.102	2.6	Clear	The Observatory.
Zurich	28.45	722.6	30.03	762.8	70.5	21.4	82	SE	.....	.....	1	.....	5	.....	.....	0.339	8.6	Cloudy	The Observatory.

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.8 mm.; Thermometer, +8.2 cent.; Relative Humidity, —4 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.2	80.6	27.0	50	SE	7	3.0	.....	.....	3	.....	NW	0	0	.....	The Observatory.
Valona	.....	.....	30.15	765.8	80.2	26.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.72	754.9	29.83	757.6	92.7	33.7	54	SW	.....	.....	3	.....	1k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation: no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the coöperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.01	762.2	30.08	764.0	57.8	14.3	88	NE	1	0.4	.....	0	2k	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.63	752.6	29.93	760.2	62	16.7	.....	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	W. R. Bigg.
*Chatham, N B	30.00	762.0	30.06	763.5	54	12.2	93	NE	4	1.8	.....	.....	10s	.....	NE	0.45	11.4	Cloudy	G. A. Blair.
Charlottetown, P. E. Island.	29.97	761.2	30.01	762.2	61	16.1	83	SW	2	0.9	.....	.....	8ks	.....	Calm	0	0	Cloudy	H. J. Cundall, C. E
Cornwall, Ontario	29.75	755.6	29.94	760.5	62.5	16.9	92	E	.....	.....	2	7cs	0	E	.....	0	0	Cloudy	James Smith, M. A
Dalhousie, N. B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.14	3.6	.....	H. A. Johnson.
Esquimault, B. C	29.93	760.2	29.98	761.5	54.2	12.3	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	30.04	763.0	30.06	763.5	52	11.1	86	Calm	0	0	.....	8k	0	W	.....	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.00	762.0	30.06	763.5	54.9	12.7	89	NE	4	1.8	.....	.....	10s	.....	.....	0	0	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.21	741.9	30.03	762.7	54	12.2	93	NW	4	1.8	.....	2c	Haze	Calm	Calm	0	0	Fair	James Stewart.
Granton, Ontario	28.82	732.0	29.89	759 2	61	16.1	94	Calm	.....	.....	0	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	29.87	758.7	30.03	762.7	57	13.9	94	Calm	0	0	.....	5c	2ks	W	W	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.55	750.6	29.93	760.2	66.0	18.9	87	E	.....	.....	1	5ck	0	W	.....	0	0	Fair	Geo. Dickson, M. A.
Heart's Content, N. F	30.02	762.5	30.04	763.0	56	13.3	87	W	.....	.....	1	0	0	.....	.....	0	0	Foggy	E. Weedon.
*Kingston, Ontario	29.60	751.8	29.93	760.2	63	17.2	93	NE	5	2.2	.....	Haze	0	NE	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	29.99	761.7	30.03	762.7	68.0	20.0	.....	SW	6	2.7	.....	3k	0	W	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.79	756.7	29.99	761.7	61	16.1	88	E	6	2.7	.....	.....	10s	.....	.....	Inap.	Inap.	Cloudy	C. H. McLeod, C. E
*Parry Sound, Ontario	29.25	742.9	29.93	760.2	62	16.7	88	N	4	1.8	.....	2cs	Haze	W	W	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.21	741.9	29.94	760.5	60.7	15.9	88	Calm	.....	.....	0.	8k	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.23	742.4	29.90	759.4	63	17.2	89	N	4	1.8	.....	10ck	0	W	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	29.98	761.5	30.02	762.5	66.3	19.1	.....	NW	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.26	743.2	29.89	759.2	60	15.6	88	SE	3	1.3	.....	.....	8ks	.....	W	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.73	755.1	30.04	763.0	55	12.8	93	E	.....	.....	4	.....	10n	.....	E	0	0	Cloudy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.52	749.8	29.97	761.2	56	13.3	97	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.96	761.0	30.01	762.2	58	14.4	92	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.88	758.9	30.04	763.0	56	13.3	100	S	3	1.3	.....	.....	Fog	.....	.....	0.03	0.8	Foggy	G. Murdock, C. E.
*Saugeen, Ontario	29.20	741.7	29.90	759.4	58	14.4	86	E	2	0.9	.....	.....	10ks	.....	Calm	0	0	Cloudy	R. Stewart.
Stayner, Ontario	29.14	740.1	29.89	759.2	66	18.9	78	SE	3	1.3	.....	8ck	Haze	NW	.....	0	0	Hazy	R. J. Cole.
Stratford, Ontario	28.66	728.0	29.90	759.4	60.2	15.7	85	Calm	0	0	.....	1cs	6s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.01	762.2	30.04	763.0	67	19.4	66	SW	7	3.1	.....	8ck	0	SW	.....	0	0	Fair	T. C. Hill.
*Toronto, Ontario	29.55	750.6	29.92	760.0	65	18.3	89	NE	1	0.4	.....	5ck	5s	W	Calm	0	0	Cloudy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	57.0	13.9	86	SE	.....	.....	.....	Sm'c	Sm'c	.....	.....	0	0	Fair	John Delany.

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0-10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.74	755.4	29.96	761.0	65	18.3	84	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
Alpena, Michigan	29.27	743.2	29.89	759.2	62	16.7	100	N	8	3.6	.....	.....	10n	.....	Calm	0.22	5.6	Light rain	
Atlantic City, New Jersey	29.94	760.5	29.96	761.0	72	22.2	75	NE	8	3.6	.....	2c	0	Calm	.....	0	0	Clear	
Augusta, Georgia	29.77	756.1	29.95	760.7	78	25.6	91	Calm	0	0	.....	Haze	0	.....	.....	0.12	3.0	Clear	
Baltimore, Maryland	29.91	759.7	29.96	761.0	70	21.1	85	S	3	1.3	.....	.....	10s	.....	Calm	0	0	Threatening	
Barnegat, New Jersey	29.96	761.0	29.98	761.5	71	21.7	71	N	7	3.1	.....	2k	0	Calm	.....	Inap.	Inap.	Fair	
Bismarck, Dakota	28.37	720.6	30.23	767.8	60	15.6	82	N	1	0.4	.....	Haze	Sm'e	.....	.....	0.01	0.3	Smoky	
Boerne, Texas	28.54	724.9	.....	.....	78	25.6	86	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.16	689.8	30.12	765.0	67	19.4	68	SW	6	2.7	.....	2k	5s	Calm	Calm	0	0	Fair	
Boston, Massachusetts	29.84	757.9	29.98	761.5	65	18.3	78	W	2	0.9	.....	1ck;hz	Haze	W	W	0	0	Hazy	
Brackettville, Texas	28.83	732.3	29.82	757.4	77	25.0	77	Calm	0	0	.....	2cs	0	E	.....	0	0	Fair	
Breckenridge, Minnesota	29.05	737.9	30.04	763.0	54	12.2	97	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.86	758.4	29.92	760.0	83	28.3	67	Calm	0	0	.....	0	Sm'e	.....	SE.	0	0	Clear	
Buffalo, New York	29.20	741.7	29.88	758.9	59	15.0	82	NE	3	1.3	.....	2k	Sm'e	NW	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	78	25.6	57	Calm	.....	.....	0	2cs	0	Calm	.....	0	0	Fair	
Burlington, Vermont	29.76	755.9	30.02	762.5	61	16.1	82	Calm	0	0	.....	1c	0	W	.....	0	0	Clear	
Cairo, Illinois	29.59	749.3	29.87	758.7	76	24.4	73	S	3	1.3	.....	1ck	0	W	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	63	17.2	83	NE	.....	.....	1	2ck	0	Calm	.....	0	0	Fair	
Camp Grant, Arizona	25.19	639.8	29.99	761.7	70	21.1	70	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Camp Verde, Arizona	26.89	680.7	30.28	769.1	72	22.2	67	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.46	697.5	30.03	762.7	41	5.0	83	Calm	.....	.....	0	2k	0	Calm	.....	0	0	Clear	
Cape Hatteras, N. Carolina	29.95	760.7	29.96	761.0	74	23.3	72	N	7	3.1	.....	2cs	0	SW	.....	0	0	Fair	
Cape Henry, Virginia	29.94	760.5	29.96	761.0	72	22.2	85	NE	10	4.5	.....	0	0	.....	.....	0	0	Clear	
Cape Lookout, N. Carolina	29.95	760.7	29.96	761.0	78	25.6	73	NE	4	1.8	.....	8ck	0	W	.....	0	0	Cloudy	
Cape May, New Jersey	29.95	760.7	29.98	761.5	70	21.1	80	E	4	1.8	.....	5ck	0	W	.....	0	0	Fair	
Castroville, Texas	29.14	740.1	29.82	757.4	75	23.9	86	Calm	0	0	.....	5c	0	E	.....	0	0	Fair	
Charleston, South Carolina	29.92	760.0	29.99	761.7	81	27.2	83	SW	6	2.7	.....	0	0	.....	.....	0.02	0.5	Clear	
Cheyenne, Wyoming	24.33	618.0	30.27	768.8	50	10.0	79	N	4	1.8	.....	0	5s	.....	Calm	0	0	Fair	
Chicago, Illinois	29.12	739.6	29.78	756.4	66	18.9	89	SW	5	2.2	.....	10k	0	NW	.....	0.01	0.3	Cloudy	
Cincinnati, Ohio	29.23	742.4	29.86	758.4	69	20.6	75	SE	4	1.8	.....	.....	10n	.....	SW	Inap.	Inap.	Light rain	
Cleveland, Ohio	29.19	741.4	29.89	759.2	61	16.1	71	SE	7	3.1	.....	.....	10s	.....	S	0	0	Cloudy	
Coleman City, Texas	28.17	715.5	29.75	755.6	77	25.0	91	N	3	1.3	.....	.....	10ks	.....	NE	0	0	Cloudy	
Columbus, Ohio	29.07	738.4	29.88	758.9	64	17.8	78	NE	1	0.4	.....	.....	10n;fg	.....	N;Calm	Inap.	Inap.	Light rain	
Corpus Christi, Texas	28.06	712.7	29.66	753.4	75	23.9	76	W	4	1.8	.....	5k	5s	E	N	0	0	Cloudy	
Corsicana, Texas	29.45	748.0	29.99	759.4	76	24.4	91	S	1	0.4	.....	5cs;k	0	Calm;S	.....	0.08	2.0	Fair	
Davenport, Iowa	29.25	742.9	29.86	758.4	67	19.4	84	W	1	0.4	.....	7ck	0	W	.....	0	0	Fair	
Denison, Texas	29.15	740.4	29.91	759.7	75	23.9	90	NE	2	0.9	.....	8cs	0	NE	.....	0	0	Fair	
Denver, Colorado	25.68	652.0	30.30	769.6	58	14.4	76	NW	12	5.4	.....	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Des Moines, Iowa	29.06	738.1	29.90	759.4	68	20.0	79	W	5	2.2	.....	0	0	.....	.....	0.04	1.0	Clear	
Detroit, Michigan	29.19	741.4	29.83	757.7	66	18.9	74	S	1	0.4	.....	.....	10s	.....	SW	0	0	Cloudy	
Dodge City, Kansas	27.54	699.5	29.76	755.9	66	18.9	89	N	12	5.4	.....	.....	8ks	.....	W	2.31	58.7	Cloudy	
Dubuque, Iowa	29.19	741.4	29.87	758.7	63	17.2	89	N	7	3.1	.....	.....	10ks	.....	N	0.06	1.5	Cloudy	
Duluth, Minnesota	29.35	745.5	30.01	762.2	63	17.2	57	NW	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Eagle Pass, Texas	29.16	740.7	29.86	758.4	74	23.3	90	SE	4	1.8	.....	2c	0	Calm	.....	0	0	Fair	
Eastport, Maine	29.95	760.7	30.02	762.5	58	14.4	88	S	3	1.3	.....	.....	10s;fg	.....	Calm;S	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	79	26.1	87	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
El Paso, Texas	.....	.....	.....	.....	78	25.6	57	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.19	741.4	29.88	758.9	66	18.9	69	SE	3	1.3	.....	2ck	5s	SE	Calm	0	0	Cloudy	
Escanaba, Michigan	29.27	743.4	29.90	759.4	64	17.8	89	N	14	6.3	.....	.....	10s	.....	N	0.46	11.7	Cloudy	
Florence, Arizona	.....	.....	.....	.....	75	23.9	77	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Fort Craig, New Mexico	25.61	650.5	29.67	753.6	66	18.9	100	NE	7	3.1	.....	.....	10n	.....	NE	0.15	3.8	Light rain	
Fort Davis, Texas	25.26	641.6	30.22	767.6	71	21.7	71	NE	1	0.4	.....	5k	0	SE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.41	747.0	29.92	760.0	73	22.8	90	Calm	0	0	.....	8c	Sm'e	NW	Calm	0	0	Fair	
Fort Griffin, Texas	28.72	729.5	29.94	760.5	75	23.9	90	N	8	3.6	.....	.....	10n	.....	N	0.30	7.6	Light rain	
Fort McKavett, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.78	731.0	29.84	757.9	73	22.8	81	N	6	2.7	.....	.....	10s	.....	Calm	0.01	0.3	Cloudy	
Fredericksburg, Texas	28.23	717.0	29.72	754.9	76	24.4	77	Calm	0	0	.....	2cs	2ks	Calm	Calm	0.20	5.1	Fair	
Galveston, Texas	29.88	758.9	29.92	760.0	80	26.7	75	Calm	0	0	.....	0	5ks	.....	Calm	0.06	1.5	Fair	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.16	740.7	29.78	756.4	65	18.3	84	E	7	3.1	.....	.....	10s	.....	E	0.38	9.7	Cloudy	
Indianapolis, Indiana	29.11	739.4	29.85	758.2	68	20.0	74	SW	3	1.3	.....	2ck	2s	W	Calm	Inap.	Inap.	Fair	
Indianola, Texas	29.90	759.4	29.92	760.0	84	28.9	70	Calm	0	0	.....	1k	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.82	732.0	29.89	759.2	79	26.1	87	NW	10	4.5	.....	.....	10ks	.....	N	0	0	Threatening	
Jacksboro, Texas	28.82	732.0	29.89	759.2	79	26.1	87	Calm	0	0	.....	5k	0	SW	.....	0	0	Fair	
Jacksonville, Florida	29.97	761.2	30.00	762.0	80	26.7	76	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.25	742.9	29.83	757.7	70	21.1	75	W	3	1.3	.....	1k	2ks;n	SW	SW	0	0	Fair	
Key West, Florida	29.96	761.0	30.00	762.0	83	28.3	79	SW	7	3.1	.....	2ck	0	SW	.....	0	0	Fair	
Kittyhawk, North Carolina	29.93	760.2	29.96	761.0	72	22.2	85	NE	12	5.4	.....	9ck	1s	SW	Calm	Inap.	Inap.	Cloudy	
Knoxville, Tennessee	28.91	735.1	29.90	759.4	74	23.3	99	Calm	0	0	.....	.....	10s	.....	Calm	Inap.	Inap.	Threatening	
La Crosse, Wisconsin	29.17	740.9	29.88	758.9	63	17.2	94	N	6	2.7	.....	.....	10s	.....	Calm	0	0	Fair	
La Mesilla, New Mexico	26.08	662.4	30.23	767.8	68	20.0	89	Calm	0	0	.....	0	5s	.....	Calm	0	0	Clear	
Laredo, Texas	29.47	748.5	29.79	756.7	79	26.1	82	SE	4	1.8	.....	0	0	.....	.....	0	0	Fair	
Lead City, Dakota	25.10	637.5	30.37	771.4	49	9.4	85	S	1	0.4	.....	2k	0	Calm	.....	0	0	Fair	
Leavenworth, Kansas	29.12	739.6	29.93	760.2	66	18.9	79	NW	4	1.8	.....	0	0	.....	.....	0.14	3.6	Clear	
Los Angeles, California	29.68	753.9	30.02	762.5	59	15.0	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.35	745.5	29.89	759.2	67	19.4	74	W	3	1.3	.....	.....	10s	.....	SW	0	0	Cloudy	
Lynchburg, Virginia	29.29	744.0	29.95	760.7	70	21.1	79	NE	2	0.9	.....	.....	10ks	.....	Calm	Inap	Inap.	Cloudy	
Marquette, Michigan	29.24	742.7	29.92	760.0	64	17.8	89	Calm	0	0	.....	0	5s	.....	SE	0.25	6.3	Fair	
Mason, Texas	28.32	719.5	30.00	762.0	75	23.9	76	Calm	0	0	.....	2ck	0	NE	.....	0	0	Fair	
Memphis, Tennessee	29.63	752.6	29.93	760.2	73	22.8	81	NE	3	1.3	.....	5ck	0	W	.....	0	0	Fair	
Milwaukee, Wisconsin	29.09	738.9	29.79	756.7	65	18.3	89	SW	9	4.0	.....	0	5s	.....	N	0	0	Fair	
Mobile, Alabama	29.94	760.5	29.98	761.5	80	26.7	80	SW	5	2.2	.....	0	0	.....	.....	0	0	Clear	
Montgomery, Alabama	29.73	755.1	29.95	760.7	80	26.7	78	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Morgantown, West Virginia	28.88	733.5	29.88	758.9	69	20.6	85	Calm	0	0	.....	2ck	5s	NW	Calm	0.04	1.0	Cloudy	
Mt. Washington, N. H.	23.92	607.6	30.28	769.1	44	6.7	83	Calm	0	0	.....	2k	Haze	NW	Calm	0	0	Clear	
Nashville, Tennessee	29.42	747.3	29.94	760.5	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New Haven, Connecticut	29.88	758.9	29.99	761.7	69	20.6	80	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
New London, Connecticut	29.95	760.7	30.00	762.0	67	19.4	84	Calm	0	0	.....	2ck	Fog	SW	N	0	0	Fair	
New Orleans, Louisiana	29.90	759.4	29.96	761.0	80	26.7	74	W	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
Newport, Rhode Island	29.94	760.5	29.98	761.5	67	19.4	79	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.81	757.2	29.98	761.5	70	21.1	66	N	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	29.92	760.0	29.97	761.2	73	22.8	72	N	1	0.4	.....	5cs	0	Calm	.....	0.01	0.3	Fair	
North Platte, Nebraska	27.30	693.4	29.85	758.2	56	13.3	84	NW	8	3.6	.....	0	0	.....	.....	0.19	4.8	Clear	
Olympia, Washington Ter.	29.92	760.0	29.96	761.0	52	11.1	93	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Omaha, Nebraska	28.90	734.0	29.95	760.7	64	17.8	78	NW	6	2.7	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Oswego, New York	29.63	752.6	29.94	760.5	63	17.2	81	S	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	29.25	742.9	30.07	763.8	52	11.1	93	NW	3	1.3	.....	1c	0	Calm	.....	0	0	Clear	
Philadelphia, Pennsylvania	29.94	760.5	29.99	761.7	67	19.4	84	NE	4	1.8	.....	0	Sm'e	.....	Calm	0	0	Clear	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Correcte for instrum'tal error and temperature. Inches.	Barometer. Correcte for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.74	730.0	.....	.....	83	28.3	56	N	.....	.....	1	2cs	0	Calm	.....	0	0	Clear	
Pike's Peak, Colorado	18.13	460.5	30.34	770.6	34	1.1	52	N	10	4.5	.....	.....	10s	.....	N	0.63	16.0	Cloudy	
Pioche, Nevada	24.16	613.6	29.93	760.2	62	16.7	27	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.19	739.1	29.88	758.9	66	18.9	89	SW	3	1.3	.....	.....	10s;fg	.....	SW;calm	0	0	Cloudy	
Port Huron, Michigan	29.19	741.4	29.83	757.7	66	18.9	69	SE	4	1.8	.....	.....	10ks	.....	SE	0	0	Cloudy	
Portland, Maine	29.95	760.7	30.00	762.0	61	16.1	82	NE	4	1.8	.....	Haze	Fog;hz	.....	.....	0	0	Hazy	
Portland, Oregon	29.89	759.2	29.99	761.7	65	18.3	78	NW	3	1.3	.....	.....	10ks;fg	.....	NW;SE	0	0	Cloudy	
Prescott, Arizona	24.88	631.9	30.24	768.1	57	13.9	69	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.16	740.7	29.94	760.5	77	25.0	86	E	1	0.4	.....	5?cs	0	SE	.....	0	0	Cloudy	
Punta Rassa, Florida	29.99	761.7	30.01	762.2	83	28.3	75	Calm	0	0	.....	5k	0	SW	.....	0	0	Fair	
Red Bluff, California	29.58	751.3	29.92	760.0	68	20.0	60	SE	3	1.3	.....	2k	Haze	S	Calm	0	0	Fair	
Rio Grande City, Texas	29.76	755.9	29.96	761.0	79	26.1	62	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.30	744.2	29.90	759.4	63	17.2	83	SW	3	1.3	.....	0	Fog	.....	Calm	0	0	Clear	
Roseburg, Oregon	29.42	747.3	29.97	761.2	58	14.4	91	Calm	0	0	.....	1c	1s;hz	Calm	Calm	0	0	Fair	
Sacramento, California	29.84	757.9	29.93	760.2	59	15.0	76	S	5	2.2	.....	1c	0	S	.....	0	0	Clear	
St. Louis, Missouri	29.36	745.7	29.90	759.4	74	23.3	72	NW	9	4.0	.....	.....	10s	.....	W	0	0	Cloudy	
St. Marks, Florida	29.98	761.5	30.00	762.0	75	23.9	95	Calm	0	0	.....	0	1ks	.....	Calm	0	0	Clear	
St. Paul, Minnesota	29.14	740.1	29.94	760.5	64	17.8	83	N	8	3.6	.....	.....	10s	.....	NE	0.02	0.5	Cloudy	
Salt Lake City, Utah	25.71	653.0	30.04	763.0	71	21.7	41	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.26	743.2	29.82	757.4	76	24.4	91	Calm	0	0	.....	5ck	0	SE	.....	0	0	Fair	
San Diego, California	29.96	761.0	30.03	762.7	65	18.3	78	NE	3	1.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.24	742.7	29.88	758.9	65	18.3	73	SW	8	3.6	.....	.....	10ks	.....	SW	0	0	Cloudy	
Sandy Hook, New Jersey	29.96	761.0	29.99	761.7	68	20.0	79	NE	4	1.8	.....	1c	0	NE	.....	0	0	Clear	
San Francisco, California	29.93	760.2	30.00	762.0	57	13.9	87	SW	6	2.7	.....	.....	10ks	.....	SW	0	0	Cloudy	
Santa Fé, New Mexico	23.44	595.4	29.98	761.5	57	13.9	69	Calm	0	0	.....	0	2s	.....	Calm	0.07	1.8	Fair	
Savannah, Georgia	29.89	759.2	29.98	761.5	84	28.9	68	SW	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Shreveport, Louisiana	29.72	754.9	29.92	760.0	78	25.6	86	SW	3	1.3	.....	10cs	0	SW	.....	Inap.	Inap.	Cloudy	
Silver City, New Mexico	24.36	618.7	.....	.....	62	16.7	94	S	8	3.6	.....	.....	10s	.....	.....	0.73	18.5	Cloudy	
Smithville, North Carolina	29.95	760.7	29.98	761.5	78	25.6	95	W	4	1.8	.....	0	8s	.....	W	0.18	4.6	Cloudy	
Springfield, Massachusetts	29.81	757.2	29.93	760.2	62	16.7	88	N	3	1.3	.....	.....	10s	.....	N	0	0	Cloudy	
Stockton, Texas	26.94	684.3	29.94	760.5	73	22.8	34	S	3	1.3	.....	4k	0	SE	.....	0	0	Fair	
Thatcher's Island, Mass	29.92	760.0	29.97	761.2	62	16.7	89	SW	4	1.8	.....	1c	0	SW	.....	0	0	Clear	
Toledo, Ohio	29.18	741.2	29.82	757.4	67	19.4	74	S	7	3.1	.....	.....	10ks	.....	S	0	0	Cloudy	
Tucson, Arizona	27.25	692.1	29.80	756.9	80	26.7	67	E	2	0.9	.....	8ck	0	Calm	.....	0	0	Fair	
Tybee Island, Georgia	29.95	760.7	29.98	761.5	81	27.2	78	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Umatilla, Oregon	29.57	751.1	.....	.....	70	21.1	44	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
Unalashka, Aleutian Islands	.....	.....	.....	.....	44	6.7	92	NW	.....	.....	2	.....	10s	.....	N	0	0	Cloudy	
Uvalde, Texas	29.02	737.1	29.81	757.2	77	25.0	77	E	1	0.4	.....	5cs	0	Calm	.....	0	0	Fair	
Vicksburg, Mississippi	29.72	754.9	29.97	761.2	77	25.0	91	SW	5	2.2	.....	8c	0	Calm	.....	0.11	2.8	Fair	
Virginia City, Montana	24.50	622.3	29.98	761.5	58	14.4	60	SE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.57	751.1	29.94	760.5	59	15.0	82	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.86	758.4	29.97	761.2	69	20.6	90	Calm	0	0	.....	.....	10n	.....	S	0.02	0.5	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	74	23.3	72	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Wilmington, N. Carolina	29.90	759.4	29.97	761.2	74	23.3	100	W	6	2.7	.....	.....	10n	.....	W	0.05	1.3	Light rain	
Winnemucca, Nevada	25.67	652.0	30.03	762.7	58	14.4	64	W	6	2.7	.....	5k	0	SW	.....	0	0	Fair	
Wood's Holl, Mass	29.94	760.5	29.99	761.7	67	19.4	79	SE	1	0.4	.....	Haze	0	Calm	.....	0	0	Clear	
Yankton, Dakota	28.79	731.3	30.06	763.5	59	15.0	88	NW	8	3.6	.....	1cs	0	NW	.....	0	0	Clear	
Yuma, Arizona	29.69	754.1	29.85	758.2	75	23.9	56	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.95	760.7	30.00	762.0	45.0	7.2	92	SE	9	4.0	.....	2c	0	NE	.....	0	0	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I.	29.99	761.7	30.01	762.2	80	26.7	86	S	1.2	0.5	.....	4ck	0	Calm	.....	0.36	9.1	Fair	Chas. Hasselbrink.
Santiago de Cuba, W. I.	29.99	761.7	30.02	762.5	80	26.7	82	Calm	0	0	.....	4c	0	.....	.....	Blank	Blank	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	82	27.8	83	E	3	1.3	.....	0	2ks	.....	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I.	30.17	766.3	30.18	766.6	80	26.7	96	Calm	0	0	.....	2k	2s	SE	.....	0.04	1.0	.....	James Galt.
Navassa, W. I.	29.95	760.7	30.03	762.7	83	28.3	.....	NW	5.4	2.4	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.04	763.0	30.04	763.0	83	28.3	79	E	.....	.....	2	8c	6k	E	.....	0	0	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.30	642.6	.....	.....	66.5	19.2	80	Calm	0	0	.....	1cs	3ks	.....	.....	0	0	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?)m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4(?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft.,or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,500 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,775.6 (?) ft.,or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,396 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4, m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.10	764.5	82	27.8	82	27.8	81	Calm	0	0	.....	.....	2	.....	NW	0	0	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	29.99‡	761.7‡	.....	.....	60	15.6	94	W	1	0.4	.....	.....	10	.....	.....	0	0	.....	.....	Misty.....	
Naval Hospital, Yokohama, Japan	29.87*	758.7*	78.9	26.1	78	25.6	91	Calm	.....	.....	0	.....	2s;hz	.....	E	0.26	6.6	.....	.....	Fair	
Adams. S. 23° 53′, W. 174° 10′	30.20	767.1	72	22.2	67	19.4	100	SSE	.....	.....	4	.....	5	.....	S	.....	.....	Long	S;W	Pleasant.....	
Alliance, Villafranca, France	30.06‡	763.5‡	.....	.....	79	26.1	78	SSW	.....	.....	1	.....	5	.....	S	.....	.....	.....	.....	Pleasant.....	
Ashuelot. Yokohoma, Japan	29.95	760.7	81	27.2	78	25.6	95	ESE	.....	.....	1	.....	10	.....	Calm	.....	.....	.....	.....	Misty.....	
Alaska, S. 46° 03′, W. 64° 18′	30.29	769.4	51	10.6	44	6.7	100	NW	.....	.....	3	.....	2	.....	NW	0	0	Smooth	.....	D. clouds.....	
Canonicus, New Orleans, La	29.99	761.7	55	12.8	78	25.6	86	Var.	.....	.....	1	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Colorado, New York, N. Y.	29.94‡	760.5‡	.....	.....	70	21.1	70	NE	5	2.2	.....	.....	8	.....	N	0.01	0.3	.....	.....	Foggy.....	
Constitution, Havre, France	29.88‡	758.9‡	.....	.....	68	20.0	95	SW	.....	.....	2	.....	8	.....	SSW	.....	.....	.....	.....	Cloudy	
Despatch, Constantinople, Turkey	29.96‡	761.0‡	.....	.....	76	24.4	73	S	.....	.....	3	.....	2	.....	SW	.....	.....	.....	.....	Fair	
Franklin, Norfolk, Va.	30.06	763.5	75	23.9	73	22.8	85	NW	1.2	0.5	.....	.....	8	.....	SW	0	0	.....	.....	Cloudy.....	
Gettysburg Toulon, France	29.96‡	761.0‡	.....	.....	82	27.8	100	SSE	.....	.....	0-1	.....	0	.....	.....	0	0	.....	.....	Fair.....	
Hartford, Rio de Janeiro, Brazil	30.33	770.4	.....	.....	64	17.8	89	N	3.6	1.6	.....	.....	10	.....	.....	0.26	6.6	.....	.....	Cloudy.....	
Marion, Leghorn, Italy	30.11	764.8	79	26.1	80	26.7	82	WSW	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.....	
Michigan, St. Clair River	29.38	746.2	68	20.0	65	18.3	78	SE	.....	.....	2	.....	5	.....	SE	.....	.....	.....	.....	Fair.....	
Monocacy, Yokohama, Japan	29.85‡	758.2‡	.....	.....	80	26.7	87	E	.....	.....	1-2	.....	5	.....	NNE	.....	.....	.....	.....	Fair	
New Hampshire, Port Royal, S. C.	30.16	766.1	83	28.3	82	27.8	79	WSW	13	5.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear	
Onward, Callao, Peru	30.16†	766.1†	.....	.....	63	17.2	78	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	69	20.6	100	E	.....	.....	1	.....	10	.....	W	0.2	5.	.....	.....	Cloudy	
Palos, Tientsin, China	29.86	758.4	77	25.0	72	22.2	85	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Plymouth, New York, N. Y.	30.19	766.8	70	21.1	70	21.1	85	N	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Ranger, Hong-Kong, China	29.96	761.0	86	30.0	86	30.0	84	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Rio Bravo, Brownsville, Texas	29.84	757.9	78	25.6	78	25.6	95	Calm	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Santee, Annapolis, Md.	29.96‡	761.0‡	.....	.....	71	21.7	80	NNW	.....	.....	0-1	.....	10	.....	W	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.94	760.5	70	21.1	68	20.0	84	ENE	4	1.8	.....	.....	2	.....	E	0	0	.....	.....	Fair	
Supply, Havre, France	29.95	760.7	69	20.6	70	21.1	70	WSW	.....	.....	2	.....	8	.....	WSW	.....	.....	.....	.....	Cloudy.....	
Swatara, Boston, Mass.	29.95‡	760.7‡	.....	.....	66	18.9	89	NW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Trenton, Cherbourg, France	29.83‡	757.7‡	.....	.....	68	20.0	70	W	.....	.....	4-5	.....	5	.....	W	0.4	10.	.....	.....	Squally.....	
Tuscarora, Off La Paz, Mexico	29.73	755.1	72	22.2	72	22.2	90	S	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Clear	
Vandalia, Villafranca, France	30.05‡	763.3‡	.....	.....	78	25.6	86	SW	.....	.....	1	.....	5	.....	S	.....	.....	.....	.....	Fair.....	
Wabash, Boston, Mass.	29.94‡	760.5‡	.....	.....	64	17.8	83	WNW	3	1.3	.....	.....	5	.....	Calm	0	0	.....	.....	Fair.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
S. S. Alaska																			
S. S. China																			
S. S. City of New York																			Capt. Berry.
S. S. City of Panama																			Capt. Cobb.
S. S. City of Peking, N. 31° 02′, E. 132° 20′		29.83†	757.7†	81	27.2	87	Calm	0	0			2		NNE	0	Smooth		Misty	Capt. Seabury.
S. S. City o Sydney																			Capt. Cavarly.
S. S. City of Tokio																			Capt. Dearborn.
S. S. Colima																			Capt. Maury.
S. S. Costa Rica																			Capt. Searle.
S. S. Dakota, Seattle, W. T.		30.03†	762.7†	62	16.7	77	Calm			0		0			0			Foggy	Capt. Whitebury.
S. S. Georgia																			Capt. Morse.
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.
S. S. Zelandia																			Capt. A. Fuller.
																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 41° 40′, W. 65° 33′		29.82*	757.4*	64	17.8	89	NE			3				NE	0	Slight	W	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Liverpool		29.50*	749.3*	67	19.4	60	Calm			0		10			6 hours			Overcast	Capt. B. Gleadell.
S. S. Germanic, N. 44° 47′, W. 45° 04′		29.79†	756.7†	65	18.3	??	SW			6		10			8 hours	Mod'ate	SW	Misty	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 22° 34′, E. 115° 44′		29.70*	754.4*	84	28.9	89	SW			4		ks		SW		Mod'ate	SW	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 35′, W. 176° 40′		30.09†	764.3†	72	22.2	??	W			4		cs		W	0	Smooth	NW	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 44° 52′, W. 143° 20′		30.16	766.1	59	15.0	94	S			3		0				2	SW	Blue sky	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 45° 40′, W. 46° 46′		29.75	755.6	61	16.1	??	ENE			6		10		ENE	6 hours	High	SE	Rain and fog	Capt. T. H. Lamke.
S. S. Braunschweig, N. 38° 48′ W. 72° 55′		29.92	760.0	74	23.3	81	NE			3		2		N	0	1	N	Fair	Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 45° 57′, W. 52° 20′		30.13*	765.3*	63	17.2	89	NNE			2		1		SSW	Light	Smooth		Clear	Captain Sargent.
S. S. Ohio, N. 46° 43′ W. 43° 37′		30.11	764.8	68	20.0	84	SSE			3		9		SSE	0	Small	SSE		Captain Morrison.
S. S. Pennsylvania, Liverpool		29.66†	753.4†	72	22.2	100	SE			3		4		NE	Blank			Clear	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, N. 66° 9′, W. 62° 27′		29.53*	750.0*	39.0	3.9		WSW			1		10s						Lowering	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 29, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours			29.93	760.3	98.2	36.8	36	ESE			2		0			0	0	Clear	Kesxuche.
Algiers			29.84	758.0	93.2	34.0	45	NNW			1		0			0	0	Clear	Touriliere.
La Calle			29.98	761.4	89.1	31.7	62	E			4		1			0	0	Very fair	Foufrede.
Tunis			30.04	763.0															Jacques.
Sfax			30.14	765.5	89.6	32.0		S			1		0			0	0	Clear	Gau.
Saida			30.07	763.8	103.1	39.5	95	S			1		1			0	0	Very fair	Herbin.
Tebessa			30.05	763.2	93.2	34.0		N			1		1			0	0	Very fair	Watrin.
Geriville			30.10	764.6	91.6	33.1	28	S			2		0			0	0	Clear	Brugniaux.
Laghouat			30.15	765.9	98.2	36.8	22	Calm			0		0			0	0	Clear	Bertrand.
Biskra			30.07	763.6	103.1	39.5	24	SE			2		1			0	0	Very fair	Chanvaux.

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.41	747.0	29.93	760.2	83.1	28.4	57	NW			3		2			0	0		Prof. Ivan Stozi.
Cracow, I. R. Observatory	29.15	740.3	29.88	759.0	73.8	23.2	61	WSW			3		7			0	0		Dr. Wierzbiski
Eperies	29.02	737.2	29.86	758.5	74.1	23.4	73	Calm			0		9k;s		E	0	0		Julius Mikolik.
Gratz	28.70	728.9	29.89	759.1	76.3	24.6	70	SSW			2		5			0	0		Andreas Rospini.
Hermannstadt	28.56	725.5	29.91	759.6	79.5	26.4	44	WNW			3		2			0	0		Prof. Reissenberg
Kremtmünster	28.65	727.8	29.95	760.6	71.6	22.0	74	W			3		7cs;k			0.020	0.5		Prof. C. Wagner
Lemberg	28.89	733.7	29.84	757.9	66.9	19.4	76	S			2		8			0.031	0.8		Dr. T. Stanecki.
Pola	29.87	758.8	29.98	761.5	83.3	28.5	65	SE			2		8cs			0	0		I.R.Hydrographic Office
Szathmar	29.50	749.4	29.95	760.8	72.0	22.2	75	SW			3		9			0.039	1.0	Raining	Johann Tamas, S. J.
Szegedin																			Karl Stancel.
Trieste	29.91	759.8	30.02	762.4	80.6	27.0	71	WNW			1		10			0	0	Cloudy	P. Busin.
Vienna	29.24	742.7	29.92	760.0	76.1	24.5	62	W			4		10			0	0		I. R. Central Met. Obs'y.

NOTE—The originals give, occasionally, the weather by the Vienna symbols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.33	719.6	29.81	757.2	70.3	21.3	74	SSW			2		2			0.776	19.7		Prof. M. Passau.
Brussels	29.51	749.5	29.70	754.4	66.9	19.4	86	E			5		10		SW	0.409	10.40		Royal Observatory
Furnes	29.66	753.4	29.69	754.0	70.5	21.4	81	ESE			3		10			0.374	9.5	Thunder-storm	M. E. de Cae.
Maeseyck	29.74	755.4	29.87	758.6	62.6	17.0	99	NW			2		10			0.449	11.4		M. Pierrot.

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.66	753.4	29.76	755.9	59.0	15.0	.....	ESE	8	3.6	.....	.....	7	.....	.....	0.485	12.32	D. clouds	W. Boswell.
Ardrossan	29.63	752.6	29.64	752.8	63	17.2	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	George Carrick.
Armagh, Observatory	.....	.....	29.60	751.8	59.3	15.2	.....	NNE	7	3.1	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.56	750.8	62.1	16.7	.....	E	18	8.0	.....	.....	10	.....	.....	.....	.....	Misty	John Hartnup.
Birr Castle, (Parsonstown)	29.32	744.7	29.51	749.5	60.6	15.9	.....	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Showery	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.23	742.4	29.62	752.3	63.0	17.2	.....	E	.....	.....	2	.....	10	.....	.....	0	0	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.01	762.2	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.60	751.8	65.5	18.6	.....	SE	.....	.....	1	.....	10	.....	.....	Blank	Blank	Overcast	H. Todd. [H.O.
Cardington	.....	.....	29.63	752.6	63.0	17.2	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.44	747.8	29.57	751.1	69.2	20.7	.....	SE	.....	.....	3	.....	9	.....	.....	Blank	Blank	Overcast	Lt. W. G. Morris, R. E.
Dartmoor	28.07	713.0	29.50	749.3	60.0	15.6	.....	S	.....	.....	3	.....	7	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.58	751.3	29.61	752.1	62	16.7	.....	ENE	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	J. Mac Gowan.
Dover	29.57	751.1	29.60	751.8	68	20.0	.....	SSE	.....	.....	3	.....	7	.....	.....	.....	.....	Showery	J. Costello.
Eccles, (near Manchester)	.....	.....	29.58	751.3	62.8	17.1	.....	E	1.0	0.4	.....	.....	10	.....	.....	.....	.....	Showery	Thomas Mackereth.
Falmouth, Observatory	29.28	743.7	29.50	749 3	65.2	18.4	.....	S	.....	.....	4	.....	7	.....	.....	.....	.....	Gloomy	The Staff.
Fort Napier, (Natal)	27.76	705.1	30.05	763.3	69.4	20 8	.....	E	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky	Pvt. G.Salmon, A.H. C.
Free Town, (Sierra Leone)	29.78	756.4	30.01	762.2	78.5	25.8	.....	Calm	.....	.....	0	.....	4	.....	.....	.....	.....	D. clouds	.....
Galway, Queen's College	.....	.....	29.51	749.5	60	15.6	.....	SE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.81	757.2	29.86	758.4	.....	.....	.....	SW	.....	.....	3	.....	1	.....	.....	.....	.....	Blue sky	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	29.48	748.8	29.69	754.1	58.9	14.9	.....	NNE	.....	.....	5	.....	10	.....	.....	.....	.....	Threatening	D. G. Maclean.
Great Yarmouth	29.66	753.4	29.67	753.6	63	17.2	.....	SE	.....	.....	4	.....	7	.....	.....	.....	.....	Thunder-storm	G. T. Watson.
Greenwich, Royal Obs'y	29.40	746.7	29.57	751.1	68.0	20.0	.....	S	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	The Staff, for G. B. Airy.
Guernsey	29.39	746.5	29.60	751.8	68.5	20.3	.....	SSE	.....	.....	2	.....	5	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.54	750.3	69	20.6	.....	S	.....	.....	4	.....	3ck	.....	.....	0.12	3.0	Fine	M. P. Moyle.
Holyhead	29.46	748.3	29.51	749.5	60	15.6	.....	E	.....	.....	4	.....	10	.....	.....	.....	.....	Raining	John Tilston.
Jersey	29.36	745.7	29.64	752.8	70.0	21.1	.....	SSW	.....	.....	3	.....	3	.....	.....	.....	.....	D. clouds	J. Fisher.
Kew, Observatory	.....	.....	29.56	750.8	68.1	20.1	.....	S	20	8.9	.....	.....	10	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.53	750.0	29.55	750.6	62	16.7	.....	E	.....	.....	4	.....	9	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.56	750.8	64.1	17.8	.....	E	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.93	760.2	30.01	762.2	81.6	27.6	.....	NW	.....	.....	1	.....	2ck	.....	.....	.....	.....	D. clouds	H. J. Becket, A. H. C.
Nairn	29.66	753.4	29.73	755.1	61	16.1	.....	NE	.....	.....	1	.....	5	.....	.....	.....	.....	½ clouded	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.01	762.2	84.8	29.3	.....	SW	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.39	746.5	29.58	751.3	66.7	19.3	.....	SE	.....	.....	3	.....	10d	.....	ESE	0.021	0.53	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.04	737.6	29.55	750.6	61.9	16.6	.....	ENE	.....	.....	2	.....	10	.....	.....	.....	.....	Drizzling	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.61	752.1	65	18.3	.....	Calm	.....	.....	0	.....	10	.....	.....	.....	.....	Drizzling	H.E. Bellamy.
Plymouth	29.45	748.0	29.53	750.0	66.4	19.1	.....	SSW	.....	.....	5	.....	7	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.39	746.5	29.44	747.8	59	15.0	.....	E	.....	.....	5	.....	10	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.40	746.7	29.45	748.0	64	17.8	.....	S	.....	.....	1	.....	7	.....	.....	.....	.....	Misty	John C. Walker.
Sandwick Manse, (Orkneys.)	.....	.....	29.78	753.4	57.1	13 9	.....	E	20	8.9	.....	.....	10	.....	.....	.....	.....	Raining	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.95	760.7	84.0	28.9	.....	SW	.....	.....	1	.....	2	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.36	745.7	29.63	752.6	62.9	17.2	.....	NE	.....	.....	1	.....	9	.....	.....	0.08	2.0	Threatening	W. F. Cooper.
Silloth Rectory	29.60	751.8	29.63	752.6	60.8	16.0	89	E	.....	.....	3	.....	10	.....	.....	0.550	13.97	Overcast	C. Edith Redford.
Stonyh urst, Observatory	29.22	742.2	29.62	752.3	62.0	16.7	.....	NNE	.....	.....	0	.....	10	.....	.....	.....	.....	Drizzling	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.66	753.4	29.69	754.1	59	15.0	.....	ENE	.....	.....	3	.....	2	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev.C.H.Griffith, F.M.S
Thurso	.....	.....	29.75	755.6	62	16.7	.....	NNW	.....	.....	1	.....	9	.....	.....	.....	.....	Overcast	John Trotter.
Truro, Royal Institution	.....	.....	29.53	750.0	65	18.3	.....	S	.....	.....	8	.....	8	.....	.....	.....	.....	Gloomy	W. Newcombe.
Valencia, Observatory	.....	.....	29.46	748.3	58.9	14.9	.....	NE	20	8.9	.....	.....	10	.....	.....	.....	.....	Raining	The Staff.
SUB-SERIES.																			
Hobart Town, (Tasmania)	.....	.....	30.02	762.5	55	12.8	87	NW	.....	.....	3	.....	0	.....	.....	0.1	3.	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.08	763.9	74.7	23.7	68	SSW	6.5	2.9	.....	0	8	.....	.....	0.21	5.3	Cloudy	C. Meldrum.
Melbourne, Observatory	30.14	765.5	30.23	767.8	46.0	7.8	97	Calm	0	0	.....	.....	0	.....	.....	0.22	5.6	Hazy	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway. Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—	Weather.	Observer.
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 42° 45′, W. 62° 55′	3	.....	D. clouds	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith, N. 47° 30′, W. 9° 50′	7	SSW; WNW	Raining	Capt. D. W. A. Quaile
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson. [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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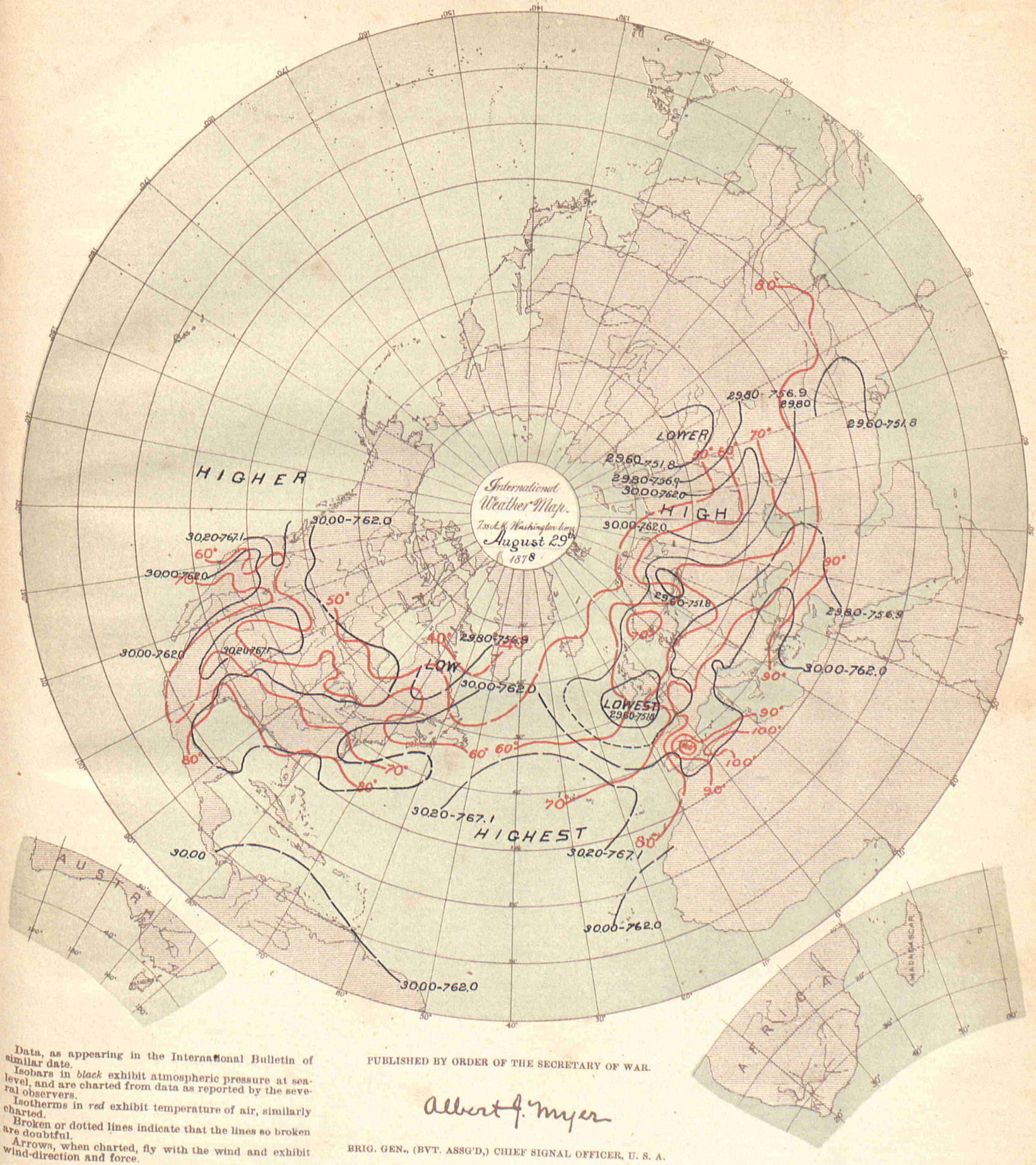
NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature. Inches.	BAROMETER. Corrected for instrum'tal error and temperature. Millimeter	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10.	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Punta Arenas																			
San José	26.32	668.5			66.2	19 0	95	N			1	7cs;k				0	0		Mr. Ansart. Federico Maison.

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.74	755.5	29.79	756.7	67.6	19.8	61	NW			2		5						
Fanöe	29.76	756.0	29.78	756.5	65.7	18.7	81	WSW			2		1						
Godthaab, (Greenland)	29.80	757.0	29.85	758.1	38.5	3.6	95	SW			6		10						Raining
Stykkisholm, (Iceland)	29.85	758.2	29.89	759.3	52.9	11.6	79	SE			2		5						
Thorshavn, (Faröe)	29.92	759.9	29.95	760.8	53.4	11.9	75	NE			2		7						
Vestervig	29.61	752.0	29.78	756.3	64.8	18.2	80	W			2		4						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.20	741.7	29.75	755.7	72.0	22.2	84	SW			3		10	N	N	0.122	3.10	Covered	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.83	757.7	29.91	759.7	83.7	28.7	62	NNW			1		1		W	0	0	Very clear	M. Giraud, Director.
Bar-sur-Seine	29.19	741.5	29.72	754.8	80.6	27.0	62	S			1		10n			0	0	Covered	C. Saillard.
Beaumette Obs'y (Anvers)																			Albert Cheux.
Beauvais, Normal School	29.43	747.4	29.69	754.2	78.1	25.6	62	SSW			2		10		W	0.177	4.50	Covered	Frere Eugene Marie, Director.
Besançon	29.01	736.8	29.85	758.2	83.3	28.5	57	S			4		2		SE	0.08	2.	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.24	742.6	29.76	755.9	81.5	27.5	80	SW			2	10c		W		0	0	Covered	A. Wagner, Director.
Brest, Naval Observatory	29.32	744.7	29.56	750.9	69.8	21.0	62	SW			6		5		SW	6	0		The Staff.
Carcassonne, Normal School	29.43	747.4	29.83	757.7	80.6	27	74	E			6		2	E		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.22	742.3	29.77	756.2	69.4	20.8	85	SW			4		10		E	0.08	2.	Covered	M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.40	746.8	29.70	754.4	80.6	27.0	64	SW			3		1	SW	SW	0	0	Clear	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.45	722.7	29.70	754.4	89.2	31.8	34	SW			1				SW	0.016	0.4		Allnard, Director.
Commercy, Normal School	28.94	735.1	29.77	756.2	75.2	24	75	W			3		2kn		W	0.051	1.3	Slightly cl'dy	Dr. Coulet, Director.
Commune de Gréasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.58	751.4	29.79	756.7	69.3	20.7	73	SW			1		10		SW	0	0		Mouillot, Director.
Le Mans, Normal School	29.40	746.8	29.70	754.4	71.6	22	96	SW			1		5		SW	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	28.97	735.9	29.81	757.1	76.3	24.6	79	S			6				S	0.063	1.60		Baudry, Director.
Lorient, Naval Observatory	29.60	751.9	29.70	754.4	69.4	20.8	73	S			5		8		SW	0.157	4.0	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.03	760.1	29.96	760.9	73.8	23.2	91	SSW			1		10			0.017	1.2	Covered	M. Galzin, Director
Mirecourt, Normal School	28.72	729.5	29.71	754.5	79.7	26.5	69	SW			4		5cs		W	0	0	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.89	757.0	29.99	761.8	84.2	29	52	E			4		5		S	0	0	Cloudy	Boyer, Director.
Privas, Normal School	28.86	733.1	29.87	758.6	82.4	28	54				1		10	NE				Light rain	M. Cantier.
Puy de Dome (Summit)	25.09	637.3			68.0	20.0	39	SW			6				W	0	0		Allnard, Director.
Rochefort, Naval Obs'y	29.78	756.4	29.84	757.2	73 4	23.0	66	SW			3		0			0.106	2.7	Clear	M. Giguel, Director.
Rouen, Normal School	29.57	751.0	29.65	753.1	78 6	25.9	68	S			1		10		S	0	0	Covered	F. Lucard, Director.
Saint Malo (Port)			29.58	751.2	71.6	22.0	44	SW			4		5		SW	0.217	5.50	Cloudy	M. H. Hercouet.
Tarbes, Normal School	28.82	731.9	29.85	758.1	69.8	21	73	SW			2		0			0	0	Clear	T. Hugnet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.91	759.6	29.93	760.3	81.3	27.4													L'Abbé Marchés.
Lyons			30.09	761.9	76.6	24.8	44									0.31	8.		L. Jays.
Marseilles, Observatory			29.91	759.8	90.5	32.5	25	ESE			1–2		1			0	0		The Staff.
Mont-Louis	24.95	633.8	30.27	768.8	81.3	27.4	14	SSW	35.4	15.83			5			0	0		M. Cave.
Nice			30.04	763.1	77.4	25.2	83	E			3		0			0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.39	746.5	29.67	753.5	78.8	26.0	66	SSW			3		1			0	0		Marié Davy, Director
Perpignan			29.86	758.4	80.1	26.7	77	E	9.3	4.17			10		SW	0.024	0.6		Dr. Fines.
Pic du Midi, (Summit,) H. P.													8		NE	0.031	0.8		M. Baylac.
Pic du Midi, (Plantade,) H. P.	22.60	574.1			62.6	17.0		SW			6–8		4			0.240	6.1	Stormy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.56	750.8	29.72	755.0	73.0	22.8	86	S			2		10		SSW	0.098	2.5		E. Renou.
Toulouse, Observatory	29.11	739.3	29.82	757.5	82.9	28.3	56	SSE			6		2			0.043	1.10		The Staff.
Tours																0.016	0.4		C. Marquet.
Versailles			29.74	755.4	76.6	24.8	63	SW			6		10			0.094	2.39	Squally	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.86	758.4	29.88	759.0	73.6	23.1	99	E	1.8	0.8			2k			0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Gréasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,588.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	29.04	737.6	29.87	758.6	66.7	19.3	74	S	.....	.....	2	.....	5	S	.....	0	0	Foggy	Prof. Dr. Hoh.
Berlin	29.73	755.2	29.90	759.4	72.7	22.6	55	SW	.....	.....	3	.....	6	.....	.....	0.075	1.9	.....	Prof. Arndt.
Breslau	29.41	747.0	29.94	760.4	73.9	23.3	56	W	.....	.....	3	.....	1	.....	.....	0.052	1.31	.....	Royal University Obs'y
Carlsruhe	29.47	748.6	29.88	758.9	77.0	25.0	73	E	.....	.....	1	.....	9	.....	.....	0.929	23.6	.....	Albert Senz.
Cassel	29.31	744.5	29.92	759.9	74.5	23.6	65	SE	.....	.....	1	.....	5	WSW	.....	0	0	.....	Dr. H. Möhl.
Crefeld	29.70	754.4	29.86	758.5	65.1	18.4	93	SE	.....	.....	2	.....	10	.....	.....	0.24	6.	Raining.....	Director Lose.
Emden	29.72	754.8	29.76	755.8	70.3	21.3	74	S	.....	.....	1	.....	9	.....	.....	0	0	Lightning....	Prof. Prestel.
Frankfort on the Main	29.53	750.0	29.87	758.8	76.6	24.8	.....	SSW	.....	.....	1	.....	8	.....	.....	0	0	.....	Physical Society.
Friedrichshafen	28.56	725.3	29.93	760.3	72.3	22.4	84	S	.....	.....	2	.....	6	SSW	.....	0.307	7.8	.....	M. Wilhelm.
Hamburg	29.78	756.4	29.85	758.1	70.5	21.4	68	WSW	.....	.....	2	.....	6k	.....	.....	0.138	3.5	Fair..	Captain F. Hegemann.
Kiel	29.81	757.1	29.82	757.5	68.7	20.4	67	W	.....	.....	3	.....	7	.....	.....	0	0	.....	Prof. G. Karsten.
Königsberg, (Prussia)	29.71	754.5	29.78	756.5	65.8	18.8	71	W	.....	.....	5	.....	6	.....	.....	0.287	7.3	.....	Prof. E. Luther.
Köslin	.....	.....	29.83	757.7	65.8	18.8	.....	W	.....	.....	2	.....	2	.....	.....	0.327	8.3	....	H. Müller.
Leipsic, Observatory	29.52	749.9	29.93	760.2	74.8	23.8	47	WSW	.....	.....	2	.....	6	SW	.....	0	0	.....	Prof. Bruhns.
Memel, Naval School	29.71	754.7	29.76	755.9	61.2	17.9	75	W	.....	.....	5	.....	9k	.....	.....	.....	.....	.....	Reinbrecht and Skalweit.
Neufahrwasser	29.80	757.0	29.82	757.4	67.6	19.8	69	W	.....	.....	3	.....	7	.....	.....	0.154	3.9	....	A. Lothes.
Posen	29.66	753.4	29.94	760.5	71.4	21.9	59	W	.....	.....	6	.....	6	.....	.....	0.043	1.1	.....	Dr. Magener.
Strassburg (in Alsace)	29.36	745.7	29.88	759.0	77.2	25.1	76	E	.....	.....	2	.....	4	WSW	.....	0.019	0.47	.....	Astronomical Observatory.
Stuttgart	29.01	736.8	29.91	759.7	72.5	22.5	78	S	.....	.....	1	.....	9	W	.....	0.028	0.7	.....	Prof. Schoder.
Treves, (Trier)	29.28	743.6	29.80	756.8	74.8	23.8	73	W	.....	.....	3	.....	8	.....	.....	0.502	12.75	Dense fog....	Prof. Flesch.
Weissenburg, (Bavaria)	28.49	723.7	29.95	760.7	70.9	21.6	76	SW	3.8	1.7	.....	.....	10	.....	W	0.012	0.3	Covered.....	Dr. Von Bebber.
Wustrow, Naval School	29.85	758.3	29.89	759.3	65.1	18.4	84	W	.....	.....	3	.....	3	.....	.....	0.043	1.1	.....	E. F. Schütz.
German Naval Series.																			
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NOTE—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.61	752.0	29.98	761.4	91.4	33.0	.....	NE	.....	.....	2.5	.....	.....	.....	.....	.....	.....	Clear.....	Dr. J. F. J. Schmidt.
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NOTE—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.21	742.0	29.68	753.9	86.0	30.0	75	Calm	.....	.....	.....	.....	6	S	.....	Blank	Blank	D. clouds.....	
Bombay	29.64	752.9	29.68	753.9	81.2	27.3	89	NW	17	7.6	.....	.....	10	.....	NW	0.61	15.5	Overcast.....	
Poona	27.70	703.4	29.70	754.3	75.2	24.0	86	SW	.....	.....	.....	.....	10	.....	SW	0.17	4.3	Thunder-storm..	
Lahore	28.84	732.4	29.56	750.8	89.1	31.7	65	NE	2.1	0.9	.....	.....	5	.....	.....	0	0	D. clouds.....	
Belgaum	27.18	690.4	29.72	755.0	72.7	22.6	92	W	6	2.7	.....	.....	10	.....	W	0.18	4.6	Showery.....	
Roorkee	28.74	730.1	29.64	752.8	79.4	26.3	82	SE	5.2	2.3	.....	.....	7	.....	.....	2.07	52.6	....	
Agra	29.06	738.0	29.61	752.2	84.7	29.3	83	NE	.....	.....	.....	.....	4	.....	N	0	0	.....	
Nagpur	28.63	727.1	29.66	753.2	83.9	28.8	81	Calm	2.7	1.2	.....	.....	6	.....	.....	0.19	4.8	D. clouds.....	
Lucknow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Allahabad	29.33	745.0	29.64	752.8	82.4	28.0	86	Calm	1.4	0.6	.....	.....	10	.....	W	0.03	0.8	Overcast.....	
Patna	29.50	749.3	29.68	753.9	80.9	27.2	93	E	2.2	1.0	.....	.....	10	E	E	1.16	29.5	Drizzling..	
Hazaribagh	27.69	703.4	29.71	754.6	74.8	23.8	90	E	9.2	4.1	.....	.....	10	.....	SE	1.27	32.3	Raining	
Cuttack	29.63	752.6	29.71	754.6	84.2	29.0	77	E	1.5	0.7	.....	.....	1	.....	.....	0.02	0.5	D. clouds.....	
Calcutta (Alipore)	29.69	754.0	29.71	754.6	82.4	28.0	87	SE	3.0	1.3	.....	.....	8	SE	.....	0	0	D. clouds.....	
Goalpara	29.35	745.4	29.73	755.2	80.2	26.8	80	S	4.5	2.0	.....	.....	4	.....	.....	0	0	D. clouds.....	
Chittagong	29.69	754.1	29.78	756.4	79.9	26.6	93	Calm	2.5	1.1	.....	.....	4	.....	.....	0	0	Misty.....	
Sibsagar	29.41	747.0	29.74	755.5	84.2	29.0	75	NNW	1.1	0.5	.....	.....	10	.....	.....	0.01	0.3	D. clouds.....	
Jubbulpore	28.34	719.8	29.70	754.3	79.8	26.6	81	SSE	3.8	1.7	.....	.....	10	.....	.....	0.03	0.8	Overcast.....	
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NOTE.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,392.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,351 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.62	752.4	30.02	762.4	79.7	26.5	71	Calm	0	0	.....	.....	6	.....	.....	0.295	7.5	.....	Prof. Giovanni Clodig.
Padua	29.89	759.3	30.00	762.0	83.1	28.4	61	SE	7.4	3.3	.....	.....	6	W	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.80	757.0	29.99	761.7	84.6	29.2	59	SE	3.1	1.4	.....	.....	5	W	.....	0	0	.....	Conte Alm. Da Schio.
Bergamo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Trionfini Carlo.
Milan	29.48	748.9	29.98	761.5	83.1	28.4	58	NW	.....	.....	1	.....	5	SW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	29.10	739.2	29.97	761.3	81.5	27.5	66	SE	1.8	0.8	.....	.....	8	NW	.....	0	0	.....	Prof. P. F. Denza.
Mondovi	28.14	774.8	29.98	761.4	79.5	26.4	62	WNW	.....	.....	4	.....	6	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.81	757.2	30.02	762.6	74.7	23.7	80	E	.....	.....	4	.....	6	.....	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.87	758.6	30.03	762.8	77.2	25.1	74	S	.....	.....	2	.....	2	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.69	754.1	29.99	761.8	83.1	28.4	52	NNE	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.78	756.5	30.03	762.7	87.8	31.0	29	N	.....	.....	2	.....	10	W	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.93	760.1	30.01	762.2	80.6	27.0	74	SE	7.4	3.3	.....	.....	6	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.52	724.3	30.00	762.0	86.0	30.0	31	SW	.....	.....	2	.....	6	.....	.....	.....	.....	.....	Prof. P. Serpieri.
Rome	29.88	759.0	30.05	763.3	89.4	31.9	39	W	7.4	3.3	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.88	758.9	30.07	763.8	84.4	29.1	62	S	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.78	756.3	30.02	762.6	86.0	30.0	36	NE	6.3	2.8	.....	.....	1	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.81	757.2	30.00	762.0	85.8	29.9	64	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.16	740.7	30.00	762.1	93.4	34.1	56	NW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.82	757.5	30.07	763.8	81.9	27.7	66	ENE	8.1	3.6	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	30.00	762.0	30.08	764.0	83.5	28.6	62	E	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.54	750.2	30.09	764.3	84.2	29.0	64	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.
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Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.65	753.1	29.84	757.9	77.5	25.3	85	W	0.5	0.2	.....	.....	0	.....	.....	0.095	2.42	Fair	
Tokei (Yeddo) Observatory.	29.76	753.9	29.83	757.7	77.7	25.4	91	S	3.3	1.5	.....	.....	3s	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) University.	29.71	754.6	29.81	757.1	79	26.1	100	.....	.....	.....	.....	.....	7s	.....	.....	0	0	Fair	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	63.4	17.4	93	N	1.8	0.8	.....	0	10n	.....	E	.....	.....	Raining	L. Castillo, A. E.
Guadalajara	25.09	636.9	30.00	762.0	63.5	17.5	90	Calm	0	0	.....	0	9n	.....	NE	0.78	19.8	Cloudy	Prof. L. Perez.
Guanajuato	23.72	602.5	29.86	758.6	63.1	17.3	82	Calm	0	0	.....	9	0	.....	.....	0.89	22.5	Cloudy	Prof. V. Fernandez
Leon	24.44	620.8	29.93	760 1	64.4	18.0	90	N	0.9	0.4	.....	4ck	3s	NW	.....	0.39	10.0	Cloudy	Prof. M. Leal.
Mexico	23.12	587.2	30.10	764.4	58.1	14.5	90	Calm	0	0	.....	0	10k	.....	.....	0.09	2.2	Cloudy	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	62.2	16.8	92	SW	0.9	0.4	.....	1c	2ks	.....	.....	0.34	8.5	Clear	M. V. de Leon, M. E.
Puebla	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.03	0.8	.....	Prof. B. Gonzalez.
Tlacotalpam	29.92	759.8	29.93	760.1	79.7	26.5	94	S	0.9	0.4	.....	3ck	0	S	.....	0.77	19.5	Clear	Prof. F. R. Bayly.
San Luis Potosi	24.21	614 1	30.07	763.4	64.0	17.8	38	ESE	0.9	0.4	.....	0	10	.....	SE	0.07	1.9	Covered	G. Barroeta, M. D.
Vera-Cruz	29.93	760.3	29.96	761.0	78.8	26.0	83	Calm	0	0	.....	4ck	5sk	.....	.....	0.59	15.0	Very cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	78	E	1.8	0.8	.....	0	8	.....	E	0.16	4.0	Cloudy	J. A. Bonilla, M. E.
Puebla, (Catholic Institute).	23.36	593.3	30.14	765.7	56.7	13.7	85	SE	.....	.....	.....	3	0	.....	.....	0.17	4.4	Clear	Prof. P. Spina, [M.M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.39	721.0	30.07	762.6	76.1	24.5	80	SE	0.9	0.4	.....	0	10	.....	S	1.76	44.7	Raining	R. Banda, C. E.
San Juan E. Michapam	29.72	754.9	29.87	758.6	77.9	25.5	.....	Calm	0	0	.....	1c	0	S	.....	0	0	Clear	Antonio Guerra y Guerra.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.72	755.0	29.72	755.0	66.9	19.4	.....	ESE	.....	.....	4	.....	.....	.....	.....	0.043	1.1	.....	
Groningen	29.73	755.2	29.79	756.6	68.9	20.5	.....	S	.....	.....	1	.....	.....	.....	.....	0	0	.....	
Helder	29.78	756.5	29.78	756.5	67.8	19.9	.....	SE	.....	.....	4	.....	.....	.....	.....	1.083	27.5	.....	
Hellevoetsluis	29.72	755.0	29.72	755.0	62.6	17.0	100	E	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.77	756.2	29.82	757.4	63.9	17.7	92	SSE	.....	.....	2	.....	10	.....	.....	0.606	15.4	Dull	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.69	754.2	29.75	755.6	70.9	21.6	61	SW	9.8	4.4	.....	.....	0	.....	.....	0	0	.....	
Brônо	29.80	756.8	29.84	757.8	54.7	12.6	82	Calm	0	0	.....	.....	10	.....	.....	0	0	.....	
Christiania	29.59	751 6	29.73	755.1	72.1	22.3	66	WSW	2	1	.....	.....	7	.....	.....	0	0	.....	
Tromsö	29.82	757.4	29.86	758.5	50.0	10.0	72	NNE	11	5	.....	.....	9	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.15	765.8	30.34	770.6	66.9	19.4	76	N	8.1	3.6	.....	.....	5	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.02	737.0	30.00	762.1	78.6	25.9	51	WNW	11.9	5.3	.....	.....	7	SW	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	29.98	761.5	30.07	763.7	78.8	26.0	70	SW	6.3	2.8	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.69	754.1	30.04	763.0	74.7	23.7	48	WNW	9.8	4.4	.....	.....	5	WSW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.17	766.3	30.20	767.1	70.9	21.6	63	N	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.	Sea or swell. Height scale 0–9	Sea or swell. Direction from—																	
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 39′, W. 16° 55′	.....	.....	30.05	763.3	78.8	26.0	.....	NNE	.....	.....	1	.....	5	.....	NE	1	.....	D. clouds.....	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	762.9	68.0	20.0	.....	WSW	.....	.....	2	.....	4	.....	WSW	2	W	D. clouds.....	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.96	761.0	85.8	29.9	.....	SW	.....	.....	1	.....	5	.....	SW	2	N	D. clouds.....	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 08′	.....	.....	29.98	761.5	76.1	24.5	.....	N	.....	.....	1	.....	9	.....	E	1	.....	D. clouds.....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.43	747.5	29.84	757.9	66.0	18.9	76	WNW	9	4	.....	.....	2cks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.33	744.9	29.74	755.3	63.1	17.3	85	Calm	0	0	.....	.....	7	.....	.....	.....	.....	Heavy clouds. ..	Astronomical Obs.
Dorpat	29.37	746.0	29.61	752.0	60.4	15.8	98	S	2	1	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.62	752.4	29.64	752.8	71.1	21.7	57	SE	18	8	.....	.....	4ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.16	740.6	29.76	756.0	71.6	22.0	58	WNW	7	3	.....	.....	9k;ks;c	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.84	757.8	29.91	759.6	77.7	25.4	57	NNW	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.95	760.7	29.97	761.2	77.0	25.0	58	NNW	11	5	.....	.....	2	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.37	745.9	29.89	759.3	68.7	20.4	60	S	7	3	.....	.....	9ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.52	749.7	29.72	754.8	69.8	21.0	67	NNW	9	4	.....	.....	9	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	29.89	759.3	29.91	759.8	62.4	16.9	77	S	9	4	.....	.....	10	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.45	722.5	29.83	757.7	64.2	17.9	87	NE	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.87	758.8	29.79	756.7	76.3	24.6	55	E	9	4	.....	.....	10n	.....	.....	.....	.....	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.78	756.4	30.04	763.1	65.5	18.6	51	Calm	0	0	.....	.....	3	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	28.95	735.3	29.91	759.6	43.7	6.5	84	NNW	9	4	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.58	751.3	29.80	757.0	77.5	25.3	33	NNW	22	10	.....	.....	1ks	.....	.....	.....	.....	.....	
Tashkend	28.23	717.0	29.88	759.0	75.6	24.2	52	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.10	739.0	29.60	751.9	57.9	14.4	41	S	4	2	.....	.....	4	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.44	747.7	29.72	754.9	60.1	15.6	90	NNW	4	2	.....	.....	10	.....	.....	.....	.....	Raining	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.70	754.4	29.84	758.0	68.5	20.3	96	N	4	2	.....	.....	2k	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 469 meters, or 1,541.5 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.76	755.9	29.86	758.4	84.6	29.2	70	SE	1.1	0.50	.....	.....	8	.....	.....	0	0	Misty.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.79	756.6	29.84	758.0	75.9	24.4	75	NW	4.1	1.83	.....	.....	10	.....	.....	0.039	1.0	Covered.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.00	685.7	.....	.....	80.6	27.0	56	SW	11.4	5.09	.....	.....	...	.....	.....	0	0	Clear.	Domingo Martin y Perez
Madrid, Royal Observatory	27.75	701.9	29 83	757.6	90.0	32.2	34	SW	28.3	12.67	.....	0	4	.....	.....	Inap.	Inap.	Cloudy.....	The Staff.
Murcia, Met. Obs'y	29.72	755.0	29.86	758.5	104.9	40.5	19	NW	1.7	0.75	.....	1	8	N	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	28.98	736.2	29.86	758.4	67.3	19.6	68	SW	18.6	8.33	.....	.....	6	.....	.....	0.055	1.4	Cloudy.....	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.97	761.1	30.03	762.8	78.1	25.6	88	SSE	1.3	0.6	.....	0	0	.....	.....	0	0	Clear.....	Benito Vines, S. J. Federico Faura, S. J.
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
San Fernando, Naval Obs'y	29.87	758.6	29.96	761.0	80.4	26.9	69	WNW	14.0	6.3	.....	1	4	NW	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.94	760.4	30.03	762.7	81.7	27.6	84	S	0	0	.....	3cs	2k	S	S	0.906	23.00	Clear.....	Leonardo de Toleda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.76	755.9	29.80	756.9	62.2	16.8	.....	N	.....	.....	2	.....	6	.....	.....	0	0	.....	
Umea	29.75	755.6	29.80	756.9	57.2	14.0	94	SE	.....	.....	2	.....	10	.....	.....	0.110	2.8	.....	
Hernosand	29.69	754.2	29.74	755.5	59.4	15.2	89	Calm	.....	.....	0	.....	10	.....	.....	0.012	0.3	.....	
Stockholm	29.54	750.3	29.72	754.8	66.6	19.2	70	Calm	.....	.....	0	.....	10	.....	.....	0.012	0.3	Thunder	
Wisby	29.64	752.9	29.70	754.4	63.0	17.2	78	NNE	.....	.....	6	.....	0	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.64	752.8	29.71	754.7	62.6	17.0	91	NNW	6.5	2.9	.....	.....	10	.....	NNW	0.228	5.80	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.55	725.1	29.91	759.8	75.4	24.1	70	NE	.....	.....	1	.....	10	.....	.....	0.154	3.9	Covered	The Observatory.
Zurich	28.37	720.6	29.95	760.7	72.5	22.5	84	SE	.....	.....	1	.....	7	.....	.....	0.071	1.8	Cloudy	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —2.4 mm.; Thermometer, +3.6 cent.; Relative Humidity, +12 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the cooperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	30.02	762.6	83.7	28.7	51	SE	3	1.5	.....	.....	2	.....	NW	0	0	.....	The Observatory.
Valona	.....	.....	30.13	765.4	80.2	26.8	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.70	754.4	29.81	757.2	90.6	32.7	55	W	.....	.....	2	.....	3k	.....	SW	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.94	760.5	30.01	762.2	53.9	12.2	89	SW	7	3.1	.....	2c	0	SW	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.65	753.1	29.95	761.7	68	20.0	.....	Calm	0	0	.....	0	5s	.....	SE	0.23	5.8	Fair	W. R. Biga.
*Chatham, N B	30.01	762.2	30.07	763.8	59	10.0	98	SW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	G. A. Blair.
Charlottetown, P. E. Island	30.02	762.5	30.06	763.5	59	15.0	75	NE	4	1.8	.....	5cs	0	Calm	.....	0	0	Fair	H. J. Cundall, C. E.
Cornwall, Ontario	29.76	755.9	29.94	760.5	66.0	18.9	89	S	.....	.....	1	.....	10s	.....	.....	0	0	Cloudy	James Smith, M. A.
Dalhousie, N. B	29.88	758.9	30.04	763.0	53	11.7	93	W	.....	.....	1	.....	.....	.....	.....	0	0	Overcast	H. A. Johnson.
Esquimault, B. C	29.96	761.0	30.01	762.2	58.2	14.6	93	W	.....	.....	.....	3cs	0	Calm	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	29.90	759.4	29.92	760.0	61	16.1	77	SW	10	4.5	.....	.....	Haze	.....	Calm	0	0	Cloudy	J. McWilliams.
Fredericton, N. B	30.03	762.7	30.09	764.3	58.0	14.4	83	S	1	0.4	.....	.....	10s	.....	.....	0.403	10.24	Cloudy	Prof. Harrison.
*Fort Garry Manitoba	29.20	741.7	30.01	762.2	56	13.3	93	SW	6	2.7	.....	0	0	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.92	734.6	30.00	762.0	61	16.1	88	E	.....	.....	1	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.89	759.2	30.02	762.5	56	13.3	97	N	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	F. Allison, M. A.
Hamilton, Ontario	29.65	753.1	30.01	762.2	62.7	17.1	86	S	.....	.....	1	4ck	0	S	.....	0.01	0.3	Fair	Geo. Dickson, M. A.
Heart's Content, N. F	30.05	763.3	30.07	763.8	60	15.6	82	SW	.....	.....	1	0	0	.....	.....	0	0	Fine	E. Weedon.
*Kingston, Ontario	29.64	752.8	29.96	761.0	70	21.1	89	E	3	1.3	.....	8cs	0	Calm	.....	Inap.	Inap.	Cloudy	S. Woods, M. A.
Little Glace Bay, N. S	30.00	762.0	30.04	763.0	63.5	17.5	.....	SW	5	2.2	.....	7k	0	SW	.....	0	0	Cloudy	C. H. Rigby.
*Montreal, Quebec	29.77	756.1	29.97	761.2	63	17.2	89	S	1	0.4	.....	2k	2s	NW	.....	0	0	Cloudy	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.33	745.0	30.00	762.0	61	16.1	97	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	Rev. R. Mosley.
Peterboro, Ontario	29.25	742.9	29.97	761.2	68.5	20.3	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.32	744.7	30.00	762.0	60	15.6	94	N	6	2.7	.....	10k	0	S	.....	0.03	0.8	Cloudy	H. Morgan.
Port Hastings, N. S	29.96	761.0	30.01	762.2	62.5	16.9	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.36	745.7	29.99	761.7	61	16.1	82	NE	5	2.2	.....	5cs	2ks	NE	NE	0.01	0.3	Fair	M. Payne.
*Quebec, Quebec	29.67	753.6	29.99	761.7	57	13.9	87	Calm	.....	.....	0	2c	2ks	.....	.....	0	0	Hazy	Capt. Ashe, R. N
*Rockliffe, Ontario	29.56	750.8	30.01	762.2	56	13.3	100	Calm	0	0	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	30.00	762.0	30.05	763.3	58	14.4	93	E	.....	.....	.....	.....	10n	.....	.....	0	0	Cloudy	Dr. Gove.
St. John, N. B	29.91	759.7	30.07	763.8	56	13.3	93	E	2	0.9	.....	.....	10s	.....	.....	0.11	2.8	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.32	744.7	30.01	762.2	62	16.7	82	SE	3	1.3	.....	.....	Sm'e	.....	.....	0.03	0.8	Cloudy	K. Stewart.
Stayner, Ontario	29.23	742.4	29.98	761.5	67	19.4	86	NW	3	1.3	.....	0	Sm'e	.....	.....	0	0	Smoky	R. J. Cole.
Stratford, Ontario	28.76	730.5	30.01	762.2	57.3	14.1	86	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	30.03	762.7	30.06	763.5	59	15.0	88	SW	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	T. C. Hill.
*Toronto, Ontario	29.61	752.1	29.98	761.5	67	19.4	79	Calm	0	0	.....	5ck	Haze	W	Calm	0.07	1.8	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	56.0	13.3	94	SE	.....	.....	.....	0	10k	.....	.....	0	0	Fair	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,016 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the **SECRETARY OF WAR.**

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.79	756.7	30.01	762.2	68	20.0	74	S	4	1.8	.....	2c	Haze	W	.....	0	0	Fair	
Alpena, Michigan	29.40	746.7	30.03	762.7	58	14.4	87	W	5	2.2	.....	0	Haze	.....	.....	0.05	1.3	Clear	
Atlantic City, New Jersey	30.01	762.2	30.03	762.7	71	21.7	75	NE	12	5.4	.....	8c;k	0	SW;E	.....	0	0	Fair	
Augusta, Georgia	29.80	756.9	29.97	761.2	78	25.6	86	Calm	0	0	.....	.....	10s	.....	NW	0.68	17.3	Cloudy	
Baltimore, Maryland	29.97	761.2	30.02	762.5	71	21.7	80	SE	3	1.3	.....	8k	Sm'e	Calm	Calm	0.01	0.3	Fair	
Barnegat, New Jersey	30.02	762.5	30.05	763.3	72	22.2	62	E	8	3.6	.....	8c	0	W	.....	0	0	Fair	
Bismarck, Dakota	28.28	718 3	30.14	765.5	61	16.1	77	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.55	725.2	.....	.....	75	23 9	86	N	3	1.3	.....	5k	5s	Calm	Calm	Inap.	Inap.	Fair?	
Boise City, Idaho	27.23	691 6	30.19	766.8	60	15.6	70	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.94	760.5	30.09	764.3	61.5	16.4	94	NW	3	1.3	.....	.....	10s;fg	.....	N;Calm	0	0	Cloudy	
Brackettville, Texas	28.85	732.3	29.88	758.9	75	23.9	95	NW	3	1.3	.....	10cs	0	Calm	.....	0.42	10.7	Cloudy	
Breckenridge, Minnesota	29.08	738.6	30.06	763.5	58	14.4	94	S	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.88	758.9	29.94	760.5	78	25.6	86	Calm	0	0	.....	5ck	0	N	.....	0.28	7.1	Fair	
Buffalo, New York	29.29	744.0	29.96	761.0	65	18.3	89	NE	3	1.3	.....	2c	1s	Calm	Calm	0.09	2.3	Fair	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.78	756.4	30.02	762.5	68	20.0	79	S	2	0.9	.....	2k	0	W	.....	0.05	1.3	Fair	
Cairo, Illinois	29.54	750.3	29.91	759.7	77	25.0	77	N	12	5.4	.....	0	0	.....	.....	0	0	Clear	
Camp Apache, Arizona	.....	.....	.....	.....	68	20.0	90	Calm	.....	.....	0	.....	10n	.....	Calm	Blank	Blank	Light rain	
Camp Grant, Arizona	25.26	641.6	30.06	763.5	69	20.6	75	E	.....	.....	4	.....	10s	.....	E	0.76	19.3	Cloudy	
Camp Verde, Arizona	26.79	680.4	30.28	769.1	75	23.9	64	SE	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.41	696.2	29.98	761.5	47	8.3	85	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.00	762.0	30.01	762.2	74	23.3	90	NE	20	8.9	.....	5k	0	W	.....	0	0	Fair	
Cape Henry, Virginia	29.98	761.5	30.00	762.0	71	21.7	90	NE	1	0.4	.....	.....	10s	.....	Calm	0.04	1.0	Cloudy	
Cape Lookout, N. Carolina	29.96	761.0	29.98	761.5	82	27.8	87	W	10	4.5	.....	2ck	0	W	.....	0	0	Fair	
Cape May, New Jersey	30.02	762.5	30.05	763.3	70	21.1	90	E	4	1.8	.....	10cs	0	SW	.....	0	0	Cloudy	
Castroville, Texas	29.17	740.9	29.85	758.2	76	24.4	86	NW	2	0.9	.....	.....	10s	.....	NW	0.04	1.0	Cloudy	
Charleston, South Carolina	29.94	760.5	30.00	762.0	83	28.3	87	W	4	1.8	.....	0	5s	.....	W	0	0	Fair	
Cheyenne, Wyoming	24.24	615.7	30.18	766.6	50	10.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Chicago, Illinois	29.33	745.0	30.00	762.0	69	20.6	75	NE	8	3.6	.....	8k	0	NE	.....	0.05	1.3	Fair	
Cincinnati Ohio	29.30	744.2	29.94	760.2	68	20.0	81	N	3	1.3	.....	1c	Fog	W	Calm	Inap	Inap.	Clear	
Cleveland, Ohio	29.27	743.4	29.97	761.2	60	15.6	88	E	3	1.3	.....	2k	Fog	NW	Calm	0.08	2.0	Fair	
Coleman City, Texas	28.23	717.0	29.82	757.4	73	22.8	85	N	8	3.6	.....	2ck	2s	Calm	NE	0	0	Fair	
Columbus, Ohio	29.13	739.9	29.95	760.7	62	16.7	94	N	7	3.1	.....	.....	10ks	.....	NW	0.52	13.2	Cloudy	
Concho, Texas	28.12	714.2	29.73	755.1	74	23.3	81	E	12	5.4	.....	5c	0	E	.....	0.23	5.8	Fair	
Corsicana, Texas	29.49	749.0	29.94	760.5	74	23.3	90	NE	6	2.7	.....	2cs	0	Calm	.....	0.21	5.3	Clear	
Davenport, Iowa	29.48	748.8	30.11	764.8	63	17.2	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Denison, Texas	29.20	741.7	29.97	761.2	71	21.7	75	NW	6	2.7	.....	0	2s	.....	Calm	0.02	0.5	Fair	
Denver, Colorado	24.98	634.5	30.20	767.1	57	13.9	75	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Des Moines, Iowa	29.26	743.2	30.12	765.0	68	20.0	79	W	2	0.9	.....	0	Haze	.....	Calm	0	0	Hazy	
Detroit, Michigan	29.33	745.0	29.98	761.5	62	16.7	88	NE	4	1.8	.....	0	0	.....	.....	0.23	5.8	Clear	
Dodge City, Kansas	27.62	701.5	29.89	759.2	58	14.4	94	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.43	747.5	30.12	765.0	61	16.1	88	Calm	0	0	.....	.....	Fog	.....	S	0	0	Foggy	
Duluth, Minnesota	29.41	747.0	30.07	763.8	64	17.8	78	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Eagle Pass, Texas	29.23	742.4	29 94	760 5	77	25.0	91	SE	3	1.3	.....	5ck	0	Calm	.....	0	0	Fair	
Eastport, Maine	30.00	762.0	30.07	763.8	57	13.9	87	NE	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Edinburg, Texas	.....	.....	.....	.....	77	25.0	91	Calm	.....	.....	0	5ck	0	Calm	.....	0	0	Fair	
El Paso, Texas	.....	.....	.....	.....	78	25.6	76	SE	7	3.1	.....	.....	10s	.....	SE	2.04	51.8	Cloudy	
Erie, Pennsylvania	29.26	743.2	29.95	760.7	68	20.0	84	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Escanaba, Michigan	29.44	747.8	30.09	764.3	53	11.7	80	NW	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Florence, Arizona	.....	.....	.....	.....	82	27.8	60	E	.....	.....	4	0	8s	.....	E	0	0	Fair	
Fort Craig, New Mexico	25.66	651.8	29.73	755.1	68	20.0	79	NW	6	2.7	.....	.....	10s	.....	NW	0.20	5.1	Cloudy	
Fort Davis, Texas	25.34	643.6	30.30	769.6	67	19.4	90	NE	5	2.2	.....	.....	10n	.....	NE	0.86	21.8	Light rain	
Fort Gibson, Indian Ter	29.48	748.8	30.00	762.0	68	20.0	84	W	1	0.4	.....	2k	Haze	NW	Calm	0	0	Fair	
Fort Griffin, Texas	28.78	731 0	30.02	762.5	70	21.1	80	W	4	1.8	.....	0	2s	.....	Calm	0.04	1.0	Clear	
Fort McKavett, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.87	733.3	29.95	760.7	66	18.9	79	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.24	717.3	29.72	754.9	76	24.4	82	N	1	0.4	.....	0	2s	.....	Calm	0.05	1.3	Fair	
Galveston, Texas	29.98	758 9	29.92	760.0	78	25.6	86	Calm	0	0	.....	.....	8ks	.....	Calm	0.51	13.0	Cloudy	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.40	746.7	30.04	763.0	62	16.7	77	NE	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Indianapolis, Indiana	29.20	741.7	29.95	760.7	65	18.3	89	N	4	1.8	.....	.....	10s	.....	N	Inap.	Inap.	Threatening	
Indianola, Texas	29.91	759.7	29.94	760.5	83	28.3	79	SW	4	1.8	.....	3ck;k	0	W;Calm	.....	0	0	Fair	
Jacksboro, Texas	28.90	734.0	29.99	761.7	72	22.2	67	N	3	1.3	.....	0	2k	.....	NW	0	0	Fair	
Jacksonville, Florida	29.97	761.2	30.00	762.0	80	26.7	78	SW	1	0.4	.....	2k	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.45	748.0	30.04	763.0	66	18.9	84	N	2	0.9	.....	0	Haze	.....	Calm	0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	84	28.9	75	W	4	1.8	.....	5k	1ks	W	Calm	0.02	0.5	Fair	
Kittyhawk, North Carolina	29.98	761.5	30.00	762.0	71	21.7	100	E	8	3.6	.....	.....	10n	.....	NW	1.80	45.7	Light rain	
Knoxville, Tennessee	28.96	735.6	29.92	760.0	71	21.7	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Crosse, Wisconsin	29.37	746.0	30.08	764.0	67	19.4	100	W	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
La Mesilla, New Mexico	26.14	663.9	30.29	769.4	69	20.6	85	Calm	0	0	.....	.....	10s	.....	Calm	0.12	3.0	Cloudy	
Laredo, Texas	29.51	749.5	29.84	757.9	80	26.7	78	Calm	0	0	.....	10k	0	E	.....	0	0	Cloudy	
Lead City, Dakota	24.95	633.7	30.22	767.6	60	15.6	60	SW	16	7.2	.....	.....	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.26	743.2	30.09	764.3	64	17.8	83	N	2	0.9	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Los Angeles, California	29.62	752.3	29.95	760.7	60	15.6	82	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.40	746.7	29.94	760.5	67	19.4	79	N	8	3.6	.....	5c	Sm'e	SW	N	Inap.	Inap.	Fair	
Lynchburg, Virginia	29.33	745.0	29.98	761.5	71	21.7	85	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.36	745.7	30.04	763.0	64	17.8	63	NW	4	1.8	.....	5c	0	NW	.....	0	0	Fair	
Mason, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Memphis, Tennessee	29.63	752.6	29.93	760.2	76	24.4	86	N	4	1.8	.....	.....	10s	.....	NW	0.03	0.8	Cloudy	
Milwaukee, Wisconsin	29.35	745.5	30.07	763.8	60	15.6	94	NW	8	3.6	.....	.....	10s;fg	.....	.....	0	0	Foggy	
Mobile, Alabama	29.83	760.2	29.97	761.2	77.5	25.3	84	SW	1	0.4	.....	.....	10s	.....	SW	Inap.	Inap.	Cloudy	
Montgomery, Alabama	29.72	754.9	29.95	760.7	77	25.0	77	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Clear	
Morgantown, West Virginia	28.92	734.6	29.94	760.5	65	18.3	84	Calm	0	0	.....	3c;ck	Fog	SW;Calm	Calm	0	0	Fair	
Mt. Washington, N. H.	23.95	608.3	30.31	769.9	46	7.8	92	NW	9	4.0	.....	.....	Fog	.....	NW	0	0	Foggy	
Nashville, Tennessee	29.42	747.3	29.94	760.5	73	22.8	81	Calm	0	0	.....	.....	10s	.....	N	0	0	Cloudy	
New Haven, Connecticut	29.96	761.0	30.07	763.8	67	19.4	74	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.02	762.5	30.06	763.5	67	19.4	84	Calm	0	0	.....	Haze	2s;hz	Calm	Calm	0	0	Light haze	
New Orleans, Louisiana	29.90	759.4	29.95	760.7	80	26.7	78	SW	4	1.8	.....	5ck	2ks	Calm	SW	0.01	0.3	Fair	
Newport, Rhode Island	30.00	762.0	30.05	763.3	63	17.2	83	NW	5	2.2	.....	1c	0	Calm	.....	0	0	Clear	
New York, New York	29.89	759.2	30.06	763.5	68	20.0	74	NE	7	3.1	.....	5c	Haze	SW	Calm	0	0	Fair	
Norfolk, Virginia	29.95	760.7	30.00	762.0	72	22.2	90	SE	4	1.8	.....	.....	10ks	.....	SW	0.07	1.8	Cloudy	
North Platte, Nebraska	27.32	693.9	29.88	758.9	56	13.3	90	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.05	763.3	30.09	764.3	52	11.1	100	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Omaha, Nebraska	29.96	738.1	30.12	765.0	59	15 0	94	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Oswego, New York	29.69	754.1	30.00	762.0	67	19.4	79	S	3	1.3	.....	2c	5s	SW	SW	0	0	Cloudy	
Pembina, Dakota	29.22	742.2	30.03	762.7	52	11.1	93	SE	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Philadelphia, Pennsylvania	30.01	762.2	30.06	763.5	66	18.9	79	E	6	2.7	.....	10ck	0	W	.....	0	0	Cloudy	

UNITED STATES SERIES.—CONTINUED.

STATIONS	BAROMETER. Correcte for instrum'tal error and temperature. Inches.	BAROMETER. Correcte for instrum'tal error and temperature. Millimeters.	BAROMETER. Reduced to sea-level. Inches.	BAROMETER. Reduced to sea-level. Millimeters.	TEMPERATURE OF THE AIR. Fahrenheit.	TEMPERATURE OF THE AIR. Centigrade.	RELATIVE HUMIDITY. Per cent.	WIND. Direction. From—	WIND. Velocity. Miles per hour.	WIND. Velocity. Meters per second.	WIND. Force. 0—10.	CLOUDS. Amount. Up'er 0—10	CLOUDS. Amount. Low'r 0—10.	CLOUDS. Direction. Upper. From—	CLOUDS. Direction. Lower. From—	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Inches.	RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS. Millimeters.	WEATHER.	OBSERVER.
Phœnix, Arizona	28.73	729.7	.....	.....	85	29.4	64	S	.....	.....	2	2c	0	SW	.....	0	0	Clear	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	34	1.1	61	N	12	5.4	.....	0	0	.....	.....	0.08	2.0	Clear	
Pioche, Nevada	24.20	614.7	29.97	761.2	60	15.6	29	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.15	740.4	29.93	760.2	65	18.3	89	N	2	0.9	.....	2k	Fog	W	Calm	0	0	Fair	
Port Huron, Michigan	29.34	745.2	29.98	761.5	68	20.0	65	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	30.02	762.5	30.06	763.5	62	16.7	88	Calm	0	0	.....	2k	Fog	Calm	.....	0	0	Fair	
Portland, Oregon	30.10	764.5	30.21	767.3	57	13.9	87	Calm	0	0	.....	0	Fog	.....	SE	0	0	Clear	
Prescott, Arizona	24.89	632.2	30.25	768.3	61	16.1	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Pilot Point, Texas	29.22	742.2	30.01	762.2	78	25.6	50	N	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.00	762.0	30.02	762.5	84	28.9	79	E	6	2.7	.....	2ck	5s	Calm	SE	0	0	Threatening	
Red Bluff, California	29.58	751.3	29.93	760.2	69	20.6	61	N	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Rio Grande City, Texas	29.78	756.4	29.98	761.5	82	27.8	52	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.38	746.2	29.97	761.2	67	19.4	89	SW	3	1.3	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
Roseburg, Oregon	29.63	752.6	30.20	767.1	51	10.6	99	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Sacramento, California	29.86	758.4	29.94	760.5	59	15.0	76	S	4	1.8	.....	0	0	....	.....	0	0	Clear	
St. Louis, Missouri	29.49	749.0	30.05	763.3	66	18.9	84	NW	14	6.3	.....	0	0	.....	.....	0	0	Clear	
St. Marks, Florida	29.96	761.0	29.98	761.5	75	23.9	95	Calm	0	0	.....	0	1ks	....	Calm	0	0	Clear	
St. Paul, Minnesota	29.25	742.9	30.06	763.5	59	15.0	94	NW	1	0.4	.....	.....	Fog	....	.....	0	0	Foggy	
Salt Lake City, Utah	25.70	652.8	30.03	762.7	71	21.7	41	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.26	743.2	29.82	757.4	75	23.9	95	N	2	0.9	.....	5cs	0	N	.....	0.94	23.9	Fair	
San Diego, California	29.90	759.4	29.97	761.2	64	17.8	89	NW	6	2.7	.....	.....	10s	....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.33	745.0	29.98	761.5	65	18.3	94	W	5	2.2	.....	5c	5ks	NW	W	0.56	14.2	Cloudy	
Sandy Hook, New Jersey	30.03	762.7	30.06	763.5	68	20.0	79	NE	9	4.0	.....	8cs	0	NW	.....	0	0	Cloudy	
San Francisco, California	29.94	760.5	30.01	762.2	55	12.8	97	SW	5	2.2	.....	.....	Fog	.....	Calm	0	0	Foggy	
Santa Fé, New Mexico	23.51	597.1	30.05	763.3	58	14.4	82	SE	8	3.6	.....	.....	10s	.....	Calm	0.70	17.8	Cloudy	
Savannah, Georgia	29.89	759.2	29.98	761.5	85	29.4	72	SW	6	2.7	.....	5c	Haze	S	Calm	0	0	Fair	
Shreveport, Louisiana	29.72	754.9	29.93	760.2	76	24.4	91	N	4	1.8	.....	.....	10s	.....	N	0.10	2.5	Cloudy	
Silver City, New Mexico	24.44	620.8	.....	.....	62	16.7	94	N	2	0.9	.....	.....	10s	.....	Calm	0.89	22.6	Cloudy	
Smithville, North Carolina	29.97	761.2	30.00	762.0	75	23.9	95	Calm	0	0	.....	0	8s	.....	SW	1.03	26.2	Cloudy	
Springfield, Massachusetts	29.95	760.7	30.08	764.0	63	17.2	83	NE	2	0.9	.....	.....	10s	.....	NE	0	0	Cloudy	
Stockton, Texas	27.05	687.1	30.05	763.3	70	21.1	61	Calm	0	0	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Thatcher's Island, Mass	30.03	762.7	30.08	764.0	60	15.6	94	N	4	1.8	.....	2c	0	NW	.....	0	0	Fair	
Toledo, Ohio	29.31	744.5	29.97	761.2	64	17.8	89	N	6	2.7	.....	0	5ks	.....	Calm	0.45	11.4	Fair	
Tucson, Arizona	27.25	692.1	29.80	756.9	80	26.7	70	E	6	2.7	.....	10k	0	SE	.....	0	0	Cloudy	
Tybee Island, Georgia	29.95	760.7	29.98	761.5	80	26.7	87	SW	4	1.8	.....	5c	0	S	.....	0.09	2.3	Fair	
Umatilla, Oregon	29.64	752.8	.....	.....	69	20.6	61	NW	4	1.8	.....	0	Haze	.....	Calm	0	0	Fair	
Unalashka, Aleutian Islands	.....	.....	.....	.....	44	6.7	100	SW	.....	.....	1	.....	10n	.....	S	0	0	Cloudy	
Uvalde, Texas	29.05	737.9	29.83	757.7	78	25.6	78	Calm	0	0	.....	.....	10s	....	Calm	0	0	Cloudy	
Vicksburg, Mississippi	29.71	754.6	29.96	761.0	75	23.9	95	SW	7	3.1	.....	.....	10n	.....	SW	0.18	4.6	Light rain	
Virginia City, Montana	24.43	620.5	29.91	759.7	54	12.2	80	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Visalia, California	29.61	752.1	29.97	761.2	59	15.0	76	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	29.92	760.0	30.04	763.0	71	21.7	85	S	3	1.3	.....	5ck	5ks	NW	S	0.02	0.5	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	68	20.0	76	NW	.....	.....	1	5cs	0	Calm	.....	0	0	Fair	
Wilmington, N. Carolina	29.90	759.4	29.98	761.5	76	24.4	90	S	6	2.7	.....	2ck	5ks	Calm	SW	Inap.	Inap.	Fair	
Winnemucca, Nevada	25.76	654.3	30.12	765.0	54	12.2	55	E	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.01	762.2	30.06	763.5	66	18.9	73	NE	3	1.3	.....	5c	0	NW	.....	0	0	Fair	
Yankton, Dakota	28.91	734.3	30.18	766.6	58	14.4	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.65	753.1	29.81	757.2	76	24.4	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A.	29.73	755.1	29.78	756.4	46.0	7.8	88	NE	1	0.4	.....	3c	2s	NE	NE	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba. W. I.	30.00	762.0	30.02	762.5	80	26.7	86	SE	1.2	0.5	.....	2c	0	SE	.....	0	0	Fair	Chas. Hasselbrink.
Santiago de Cuba, W. I.	30.00	762.0	30.02	762.5	80	26.7	78	Calm	0	0	.....	4c	0	.....	.....	Blank	Blank	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	83	28.3	79	E	5	2.2	.....	2c	2n	SE	.....	Blank	Blank	Cloudy	G. O. Gellich.
Kingston, Jamaica, W. I.	30.18	766.6	30.19	766.8	81	27.2	91	Calm	0	0	.....	8c	2s	Calm	SE	0	0	.....	James Gall.
Navassa, W. I.	29.96	761.0	30.04	763.0	84.5	29.2	.....	SE	5.8	2.6	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A.	30.06	763.5	30.06	763.5	84	28.9	75	NE	.....	.....	2	5k	5ks	E	.....	0.430	10.92	Fair	C. J. Hering
Medellin, Colombia, S. A.	25.32	643.1	.....	.....	67.2	19.6	80	Calm	0	0	.....	3k	2ks	.....	.....	0.21	5.3	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?)m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4(?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge Cit., 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft.. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft.,or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,676 ft., or 1,456.2 m.; Mt. Washington. 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft.,or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4, m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.36 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.36 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 m.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.12	765.0	82	27.8	82	27.8	83	Calm	0	0	.....	.....	5	.....	SW	0	0	.....	.....	Fair.....	
NavyYard,Portsmouth,N.H	30.01‡	762.2‡	.....	.....	63	17.2	83	NE	2	0.9	.....	.....	2	.....	.....	0	0	.....	.....	Misty.....	
Naval Hospital, Yokohama, Japan	29.84*	757.9*	79	26.1	78.5	25.8	91	Calm	.....	.....	0	.....	1k	.....	SE	0.02	0.5	.....	.....	Fair.....	
Adams. S. 24° 00′, W. 174° 00′	30.28	769.1	70	21.1	67	19.4	100	E	.....	.....	3–4	.....	1	.....	E	.....	.....	Long	S&W	Cloudy.....	
Alliance, Villafranca, France	30.03‡	762.7‡	.....	.....	78	25.6	78	E	.....	.....	1–2	.....	6	.....	E	.....	.....	.....	.....	Threatening	
Ashuelot. Yokohoma, Japan	29.93	760.2	80	26.7	80	26.7	91	S	.....	.....	2	.....	2	.....	S	.....	.....	Smooth	.....	Clear.....	
Alaska. S. 48° 52′, W. 65° 11′	29.95	760.7	54	12.2	44	6.7	84	WSW	.....	.....	3	.....	2	.....	ENE	0	0	Smooth	.....	D. clouds.....	
Canonicus, New Orleans, La.	29.98	761.5	58	13.3	78	25.6	95	SE	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Colorado. New York, N. Y.	30.01‡	762.2‡	.....	.....	68	20.0	79	NE	4	1.8	.....	.....	8	.....	WNW	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.61‡	752.1‡	.....	.....	71	21.7	95	W	.....	.....	1	.....	8	.....	SW	.....	.....	.....	.....	Cloudy.....	
Despatch, Constantinople, Turkey	29.98‡	761.5‡	.....	.....	77	25.0	77	SSW	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear.....	
Franklin, Norfolk, Va.	30.11	764.8	74	23.2	71	21.7	95	SSE	1.2	0.5	.....	.....	8	.....	SW	0.1	3.	.....	.....	Cloudy.....	
Gettysburg Toulon, France	29.92‡	760.0‡	.....	.....	84	28.9	100	ESE	.....	.....	1–2	.....	8	.....	NNW	0	0	.....	.....	Cloudy.....	
Hartford, Rio de Janeiro, Brazil	30.38	771.6	.....	.....	65	18.3	78	NNW	1.2	0.5	.....	.....	2	.....	.....	0.49	12.4	.....	.....	Fair.....	
Marion, Leghorn, Italy	30.09	764.3	78	25.6	78	25.6	91	S	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear.	
Michigan, Detroit, Mich.	29.50	749.3	67	19 4	65	18.3	73	NE	.....	.....	2	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Monocacy. Yokohama, Japan	29.82‡	757.4‡	.....	.....	79	26.1	86	SSW	.....	.....	1	.....	5	.....	S	.....	.....	.....	.....	Fair.....	
New Hampshire, Port Royal, S. C.	30.16	766.1	85	29.4	83	28.3	83	WSW	9	4.0	.....	.....	5	.....	SW	0.24	6.1	.....	.....	Fair.....	
Onward, Callao, Peru	30.14†	765.5†	.....	.....	62	16.7	77	E	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	70	21.1	95	NE	.....	.....	1	.....	8	.....	SW	0.1	3.	.....	.....	Cloudy.....	
Palos, Tientsin, China	29.88	758.9	76	24.4	71	21.7	90	Calm	.....	.....	0	.....	2	.....	S	.....	.....	.....	.....	Clear.....	
Plymouth. New York, N. Y.	30.14	765.5	69	20.6	69	20.6	85	NE	.....	.....	1	.....	10	E	W	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	29.97	761.2	86	30.0	86	30.0	84	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.....	
Rio Bravo, Brownsville, Texas	29 88	758.9	78	25.6	78	25.6	95	Calm	.....	.....	.....	.....	5	.....	Calm	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	30.01‡	762.2‡	.....	.....	75	23.9	77	SE	.....	.....	1	.....	8	.....	NW	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	29.95	760.7	68	20.0	67	19.4	84	NE	5	2.2	.....	.....	8	.....	NE	0	0	.....	.....	Cloudy	
Supply, Havre, France	29.71	754.6	72	22.2	72	22.2	80	NNW	.....	.....	0–1	.....	5	.....	NNW	.....	.....	.....	.....	Fair.....	
Swatara, Boston, Mass.	30.03‡	762.7‡	.....	.....	63	17.2	94	NNW	.....	.....	1	.....	2	.....	.....	.....	.....	.....	.....	Clear.....	
Trenton, Cherbourg, France	29.56‡	750.8‡	.....	.....	70	21.1	70	WSW	.....	.....	4	.....	6	.....	S;W	0.2	5.	.....	.....	Fair.....	
Tuscarora, Off La Paz, Mexico	29.70	754.4	74	23.3	75	23.9	86	S	.....	.....	2	.....	8	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia. Villafranca, France	30.02‡	762.5‡	.....	.....	79	26.1	82	ESE	.....	.....	1	.....	2	.....	E	.....	.....	.....	.....	Clear.....	
Wabash, Boston, Mass.	30.08‡	764.0‡	.....	.....	61	16.1	94	NNE	4	1.8	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From —	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China																			
S. S. City of New York																			Capt. Berry.
S. S. City of Panama																			Capt. Cobb.
S. S. City of Peking, N. 33° 50′, E. 137° 00′		29.89†	759.2†	80	26.7	96	SW	7	3.1		1		SW		0	Smooth		Blue sky	Capt. Seabury.
S. S. City o Sydney																			Capt. Cavarly.
S. S. City of Tokio																			Capt. Dearborn.
S. S. Colima																			Capt. Maury.
S. S. Costa Rica																			Capt. Searle.
S. S. Dakota, Seattle, W. T.		30.07†	763.8†	59	15.0	88	Calm			0		0			0			Hazy	Capt. Whitebury.
S. S. Georgia																			Capt. Morse.
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.
S. S. Zelandia																			Capt. A. Fuller.
																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Pekin gives velocity of wind without making correction for speed of vessel. †Aneroid.

WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic, N. 40° 37′, W. 73° 23′		29.93*	760.2*	63	17.2	89	Var.			2				NE	0		W	Fine	Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Liverpool		29.48*	748.8*	65	18.3	68	Calm			0		10		NW	7 hours			Overcast	Capt. B. Gleadell.
S. S. Germanic, N. 47° 28′, W. 37° 16′		30.00†	762.0†	64	17.8	94	S			6		10			Blank	Heavy	SW	Overcast	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, N. 22° 12′, E. 114° 12′		29.79*	756.7*	86	30.0	79	SW			2		k		SW		Smooth	SW	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 20′, E. 177° 46′		30.08†	764.0†	73	22.8	95	W			4		cs		W	0	Smooth	NW	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 43° 01′, W. 136° 51′		30.23	767.8	62	16.7	100	SSE			4		10		SE		1	S	D. clouds	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 44° 17′, W. 52° 59′		30.08	764.0	64	17.8	??	SSE			3		6		SSE	0	Light	SE	Fine	Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. Undutsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 44°, W. 58° 01'		30.07*	763.8*	68	20.0	90	NW			1		1		SE	Light	Smooth		Clear	Captain Sargent.
S. S. Ohio, N. 48° 34' W. 33° 36'		30.14	765.5	62	16.7	83	SE			2		10		SE	0	Small	ENE		Captain Morrison.
S. S. Pennsylvania, St. George's Channel		29.53†	750.0†	66	18.9	100	ENE			5		10		ENE		Mod'ate	ENE	Rainy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen.
Schooner Florence, [land Id. N. 65° 32', near east coast of Cumber-		29.79*	756.7*	39.0	3.9		SW			1	1clk	0	W					Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.,) Chief Signal Officer. U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 30, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer: Corrected for instrumental error and temperature. Inches.	Barometer: Corrected for instrumental error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.94	760.4	89.1	31.7	51	N	.....	.....	1	.....	4	.....	.....	0	0	Cloudy	Kesxuche.
Algiers	.....	.....	29.83	757.7	95.7	35.4	31	W	.....	.....	1	.....	0	.....	.....	0	0	Clear.	Tourliere.
La Calle	.....	.....	29.90	759.5	91.8	33.2	54	NNW	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Foufrede.
Tunis	.....	.....	29.98	761 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.10	764.5	89.6	32.0	.....	WNW	.....	.....	3	.....	0	.....	.....	0	0	Clear	Gau.
Saida	.....	.....	30.01	762.3	102.2	39.0	59	SW	.....	.....	1	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.01	762.2	95.0	35.0	.....	E	.....	.....	4	.....	1	.....	.....	0	0	Very fair.	Watrin.
Geriville	.....	.....	30.04	762.9	85.6	29.8	48	S	.....	.....	3	.....	4	.....	.....	0	0	Cloudy	Brugniaux.
Laghouat	.....	.....	30.11	764.7	95.7	35.4	22	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.00	762.1	100.8	38.2	25	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 890? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.32	744.7	29.83	757.7	86.5	30.3	44	SW	.....	.....	5	.....	3	.....	.....	0	0	.....	Prof. Ivan Stozu.
Cracow, I. R. Observatory	29.10	739.0	29.83	757.6	77.7	25.4	51	NE	.....	.....	1	.....	0	.....	.....	0	0	.....	Dr. Wierzbiski
Eperies	29.02	737.1	29.85	758.3	76.3	24.6	65	S	.....	.....	3	.....	1cs	.....	.....	0	0	.....	Julius Mikolik.
Gratz	28.61	726.7	29.79	756.7	77.7	25.4	73	E	.....	.....	2	.....	7	.....	.....	.....	.....	Thunder-storm.	Andreas Rospini.
Hermannstadt	28.50	723.8	29.83	757.7	82.0	27.8	56	NW	.....	.....	2	.....	4	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.50	724.0	29.78	756.5	73.4	23.0	78	E	.....	.....	1	.....	6c;k	.....	.....	0.110	2.8	.....	Prof. C. Wagner
Lemberg	28.89	733.8	29.84	757.9	70.9	21.6	69	SE	.....	.....	1	.....	2	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.81	757.1	29.91	759.8	84.6	29.2	68	SE	.....	.....	2	.....	4ks	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.44	747.7	29.85	758.3	81.3	27.4	56	SE	.....	.....	2	.....	3	.....	.....	0	0	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.82	757.5	29.93	760.1	81.9	27.7	65	Calm	.....	.....	0	.....	1	.....	.....	0	0	Fair	P. Busin.
Vienna	29.13	740.0	29.81	757.1	81.7	27.6	64	ENE	.....	.....	1	.....	5	.....	.....	0	0	.....	I.R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1,337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.29	718.6	29.75	755.7	65.5	18.6	64	SSW	.....	.....	6	.....	6	.....	.....	0.031	0.8	.....	Prof. M. Passau.
Brussels	29.41	747.0	29.61	752.0	66.7	19.3	68	SW	.....	.....	7	.....	8	.....	SW	0.959	24.35	.....	Royal Observatory
Furnes	29.56	750.9	29.59	751.5	66.4	19.1	79	SW	.....	.....	7	.....	8	.....	.....	0.846	21.5	.....	M. E. de Cae.
Maeseyck	29.57	751.0	29.69	754.2	67.3	19.6	76	SW	.....	.....	6	.....	9	.....	.....	0.008	0.2	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.35	745.5	29.45	748.0	57.1	13.9	.....	NE	23	10.3	.....	.....	10	.....	.....	0.725	18.42	Raining	W. Boswell.
Ardrossan	29.41	747.0	29.43	747.5	60	15.6	.....	N	.....	.....	1	.....	9	.....	.....	.....	.....	Raining	George Carrick.
Armagh, Observatory	.....	.....	29.47	748.5	55.9	13.3	.....	NNW	9	4.0	.....	.....	10	.....	.....	.....	.....	Raining	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.38	746.2	64.4	18.0	.....	W	18	8.0	.....	.....	2	.....	.....	.....	.....	Blue sky	John Hartnup.
Birr Castle, (Parsonstown)	29.33	745.0	29.52	749.8	59.0	15.0	.....	NNW	.....	.....	2	.....	10	.....	.....	.....	.....	Raining	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	28.98	736.1	29.37	746.0	67.0	19.4	.....	W	.....	.....	2	.....	9	.....	.....	0.25	6.3	Overcast	J. McLandsborough.
Bridgetown, (Barbados)	30.00	762.0	30.03	762.7	82	27.8	.....	NE	.....	.....	3	.....	4	.....	.....	.....	.....	D. clouds	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.42	747.3	65.5	18.6	.....	W	.....	.....	1	.....	7	.....	.....	Blank	Blank	Squally	H. Todd. [H. O.
Cardington	.....	.....	29.64	752.8	67.4	19.7	.....	W	.....	.....	1	.....	7	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.32	744.7	29.44	747.8	65.2	18.4	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	Overcast	Lt. W. G. Morris, R. E.
Dartmoor	28.20	716.3	29.62	752.3	59.0	15.0	.....	SW	.....	.....	4	.....	6	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.40	746.7	29.43	747.5	59	15.0	.....	NNE	.....	.....	5	.....	10	.....	.....	.....	.....	Overcast	J. Mac Gowan.
Dover	29.49	749.0	29.51	749.5	65	18.3	.....	WSW	.....	.....	6	.....	5	.....	.....	.....	.....	Squally	J. Costello.
Eccles, (near Manchester)	.....	.....	29.36	745.7	65.8	18.8	.....	SW	2.4	1.1	.....	.....	8	.....	.....	.....	.....	D. clouds	Thomas Mackereth.
Falmouth, Observatory	29.35	745.5	29.57	751.1	61.7	16.5	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	The Staff.
Fort Napier, (Natal)	27.52	699.0	29.82	757.4	78.0	25.6	.....	E	.....	.....	2	.....	2	.....	.....	.....	.....	D. clouds	Pvt. G. Salmon, A. H. C.
Free Town, (Sierra Leone)	29.76	755 9	29.99	761.7	82	27.8	.....	SW	.....	.....	1	.....	3	.....	.....	.....	.....	D. clouds	
Galway, Queen's College	.....	.....	29.52	749.8	62	16.7	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.84	757.9	29.89	759.2	.....	.....	.....	W	.....	.....	6	.....	0	.....	.....	.....	.....	Very fine	Corpl. Wm. Allen, A. H. C.
Glasgow, Observatory	29.23	742.4	29.43	747.5	59.0	15.0	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	D. G. Maclean.
Great Yarmouth	29.36	745.7	29.37	746.0	62	16.7	.....	SW	.....	.....	5	.....	8	.....	.....	.....	.....	Raining	G. T. Watson.
Greenwich, Royal Obs'y	29.30	744.2	29.46	748.3	63.2	17.3	.....	SW	.....	.....	1	.....	9	.....	.....	.....	.....	Thunder	The Staff, for G. B. Airy.
Guernsey	29.38	746.2	29.60	751.8	64	17.8	.....	SW	.....	.....	5	.....	8	.....	.....	.....	.....	D. clouds	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.62	752.3	65	18.3	.....	W	.....	.....	2	.....	10n	.....	.....	0.45	11.4	Raining	M. P. Moyle.
Holyhead	29.38	746.2	29.42	747.3	60	15.6	.....	WNW	.....	.....	2	.....	10	.....	.....	.....	.....	Misty	John Tilston.
Jersey	29.36	745.7	29.64	752.8	64.0	17.8	.....	SW	.....	.....	7	.....	6	.....	.....	Blank	Blank	Gloomy	J. Fisher.
Kew, Observatory	.....	.....	29.47	748.5	61.5	16.4	.....	W	14	6.3	.....	.....	8	.....	.....	.....	.....	Threatening	The Staff.
Kingstown	29.42	747.3	29.55	750.6	59	15.0	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	George Mitchell.
Leicester, Museum	.....	.....	29.39	746.5	65.0	18.3	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	D. clouds	Wm. J. Harrison, F.G.S.
Malta, (Mediterranean)	29.92	760.0	29 99	761.7	84	28.9	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky	H. J. Becket, A. H. C.
Nairn	29.46	748.3	29.53	750.0	58	14.4	.....	S	.....	.....	4	.....	10	.....	.....	.....	.....	Covered	W. L. Penny.
Nassau, (Bahamas)	.....	.....	30.02	762.5	84.5	29.2	.....	SW	.....	.....	1	.....	6	.....	.....	.....	.....	D. clouds	C. S. Duncombe.
Nottingham, Observatory	29.21	741.9	29.39	746.5	65.1	18.4	.....	WNW	.....	.....	2	.....	10k;d	.....	W	0.205	5.21	Raining	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	28.90	734.0	29.40	746.7	63.7	17.6	.....	SW	.....	.....	3	.....	9	.....	.....	.....	.....	D. clouds	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.46	748.3	66	18.9	.....	WSW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	H. E. Bellamy.
Plymouth	29.45	748.0	29.52	749.8	64.5	18.1	.....	SW	.....	.....	3	.....	8	.....	.....	.....	.....	D. clouds	John Merrifield.
Roche's Point	29.51	749.5	29.56	750.8	62	16.7	.....	NNW	.....	.....	5	.....	10	.....	.....	.....	.....	Showery	W. Kennedy.
Saint Ann's Head	29.31	744.5	29.47	748.5	59	15.0	.....	WNW	.....	.....	3	.....	10	.....	.....	.....	.....	Overcast	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.63	752.6	57.8	14.3	.....	NE	19	8.5	.....	.....	10	.....	.....	.....	.....	Misty	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.91	759.7	82.2	27.9	.....	SW	.....	.....	1	.....	1	.....	.....	.....	.....	Blue sky	Sergt. W. H. Lyne.
Sheffield	29.10	739.1	29.37	746.0	67.3	19.6	.....	W	.....	.....	1	.....	7	.....	.....	0	0	Overcast	W. F. Cooper.
Silloth Rectory	29.34	745.2	29.36	745.7	63.3	17.4	90	Calm	.....	.....	0	.....	10	.....	.....	0.175	4.45	Overcast	C. Edith Redford.
Stonyhurst, Observatory	28.98	736.1	29.38	746.2	64.9	18.3	.....	SW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds	Rev. S. J. Perry.
Stornoway, Lews C., (Hebr.)	29.55	750.6	29.58	751.3	58	14.4	.....	NE	.....	.....	6	.....	10	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F.M.S
Thurso	.....	.....	29.59	751.6	59	15.0	.....	NNE	.....	.....	3	.....	10	.....	.....	.....	.....	Foggy	John Trotter.
Truro, Royal Institution	.....	.....	29.59	751.6	66	18.9	.....	W	.....	.....	7	.....	8	.....	.....	.....	.....	Raining	W. Newcombe.
Valencia, Observatory	.....	.....	29.65	753.1	62.8	17.1	.....	WNW	16	7.2	.....	.....	7	.....	.....	.....	.....	D. clouds	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	30.02	762.5	57	13.9	81	NW	.....	.....	3	.....	0	.....	.....	0	0	.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.86	758.4	30.05	763.4	74.0	23.3	61	ESE	6.5	2.9	.....	0	4	.....	E	0	0	Fine	C. Meldrum.
Melbourne, Observatory	30.14	765.5	30.23	767.8	50.0	10.0	79	NE	8	3.6	.....	.....	3	.....	.....	0	0	Fine	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,260 ft. or 670.6 m.

Marine Series. Vessels.	Sea or swell. Height scale 0-9	Sea or swell. Direction from-		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 42° 15′, W. 64° 0′	.....	.....	Blue sky	Capt. Alex. Wilson. Capt. A. Buchan.
Barque Commewyne	.....	.....	.....	Capt. W. Waring.
S. S. Gordon Castle	.....	.....	.....	
Barque Margaret Smith, N. 45° 25′, W. 11° 25′	4	SW	Showery	Capt. D. W. A. Quaile Capt. W. H. Smith, R. N.
S. S. Peruvian	.....	.....	.....	Capt. Alex. Simpson. [R.
Schooner Traveller	.....	.....	.....	Capt. W. Spratly.
Barque Virginia	.....	.....	.....	
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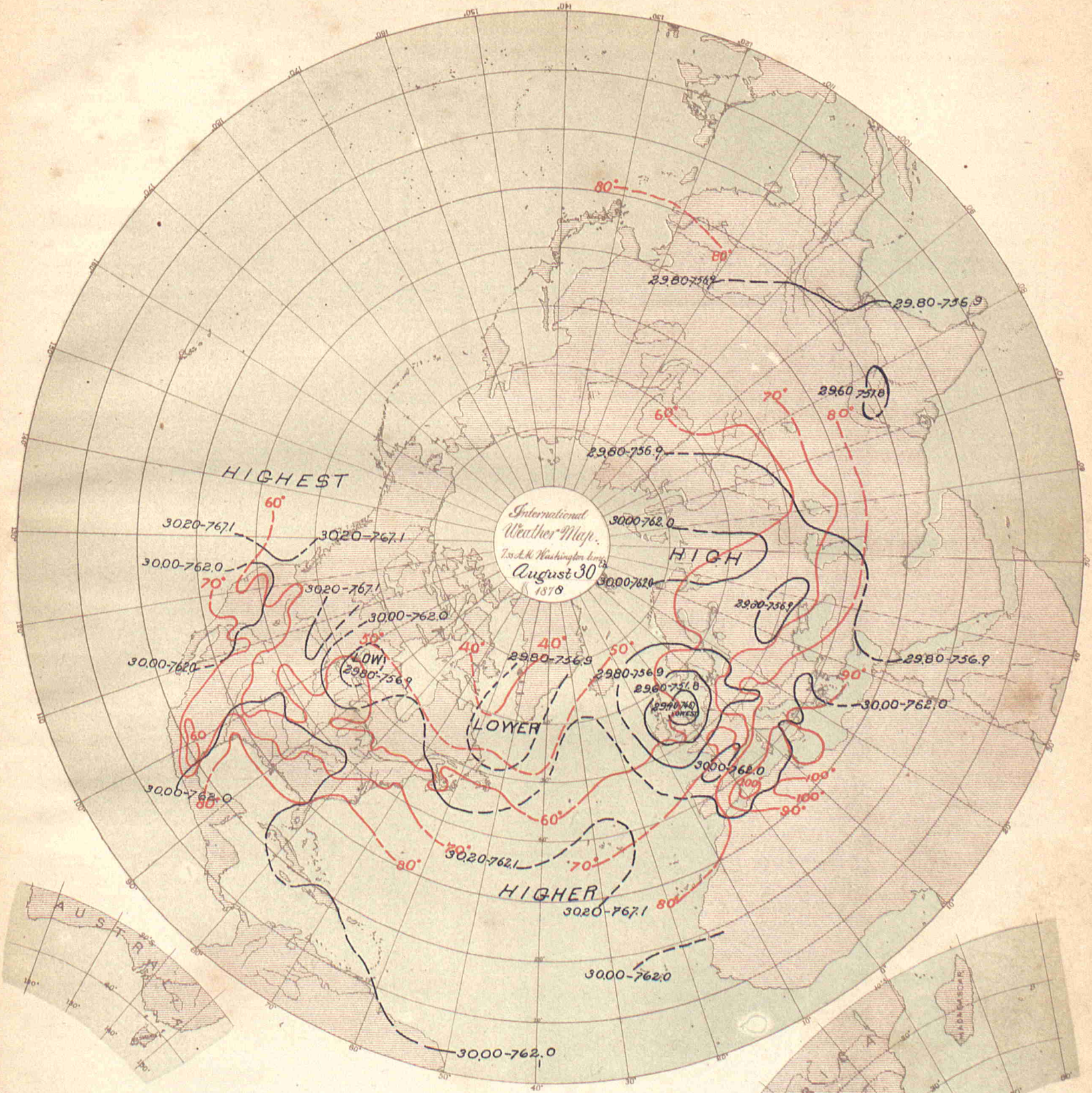
NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.



Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeter	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Punta Arenas																			Mr. Ansart.
San José	26.27	667.2			66.6	19.2	88	SE			2	5ks				Inap.	Inap.		Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.61	752.2	29.66	753.4	64.6	18.1	88	SE			4		10					
Fanöe	29.53	750.1	29.55	750.6	67.6	19.8	81	SSW			4		1					
Godthaab, (Greenland)	29.59	751.6	29.63	752.7	43.3	6.3	91	S			4		10					Raining
Stykkisholm, (Iceland)	29.85	758.3	29.90	759.4	51.4	10.8	75	Calm			0		0					
Thorshavn, (Faröe)	29.67	753.5	29.70	754.4	55.8	13.2	73	NE			2		8					
Vestervig	29.37	746.0	29.54	750.3	65.8	18.8	90	S			4		10					Thunder-storm

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.21	741.8	29.76	755.8	69.1	20.6	71	W			3		5			0.016	0.40	Cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.80	756.8	29.87	758.8	78.8	26.0	75	W			1				SW	0.319	8.1		M. Giraud, Director.
Bar-sur-Seine	29.30	744.2	29.84	757.8	71.1	21.7	55	SSW			1		8kn		W	0.362	9.2	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.42	747.2	29.69	754.2	70.3	21.3	58	SW			4		5		WSW	0	0	Cloudy	Frere Eugene Marie, Director.
Besançon	29.08	738.7	29.95	760.7	69.8	21	68	S			2		2		SE	0.532	13.5	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.28	743.6	29.81	757.1	72.5	22.5	77	W			2		2ck		W	0	0	Slightly cl'dy	A. Wagner, Director.
Brest, Naval Observatory	29.43	747.4	29.67	753.6	66.6	19.2	83	WSW			4		10		WSW	0.039	1.00	Raining	The Staff.
Carcassonne, Normal School	29.55	750.5	29.95	760.6	75.6	24.2	57	N			2		8	W		0	0	Very cloudy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.21	741.8	29.75	755.7	70.2	21.2	82	S			2		3		NNE	0.12	3		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'l	29.43	747.5	29.73	755.2	69.8	21.0	62	SW			4		5	SW	SW	0.276	7.0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.58	726.0	29.87	758.8	75.2	24.0	48	W			2				W	0.063	1.6		Alluard, Director.
Commercy, Normal School	28.99	736.4	29.83	757.7	68.9	20.5	64	SW			3		2cn		SW	0.51	13.	Slightly cl'dy	Dr. Coulet, Director.
Commune de Grèasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.61	752.0	29.82	757.3	64.2	17.9	90	W			4		5		W	0.362	9.2	Cloudy	Mouillot, Director.
Le Mans, Normal School	29.47	748.4	29.76	756.0	69.6	20.9	58	SW			6		5		W	0	0	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.07	738.4	29.96	760.9	69.8	21	72	S			4				S	0.402	10.20		Baudry, Director.
Lorient, Naval Observatory	29.68	753.8	29.78	756.3	68.0	20.0	72	WSW			5		8		SW	0.126	3.2	¾ covered	T. Carré, Director.
Mâcon, Normal School	29.97	761.2	30.00	762.0	68.5	20.3	92	S			3		5		S	0.47	12	Cloudy	M. Galzin, Director
Mirecourt, Normal School	28.77	730.7	29.77	756.2	68.5	20.3	71	SSW			4		5k		W	0.59	15	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.81	757.2	30.00	762.1	80.6	27	60	N			4		5		NE	0.205	5.2	Cloudy	Boyer, Director.
Privas, Normal School	28.84	732.6	29.88	759.0	65.5	18.6	80				3		10					Light rain	M. Cantier.
Puy de Dome (Summit)	25.08	637.1	....	....	50.4	10.2	89	W			4					0.583	14.8	Foggy	Alluard, Director.
Rochefort, Naval Obs'y	29.89	759.1	29.92	759.9	69.8	21.0	72	SW			7		8		SW	0	0	¾ covered	M. Giguel, Director.
Rouen, Normal School	29.57	751.0	29.65	753.1	71.1	21.7	58	S			4		5		S	0	0	Cloudy	F. Lucard, Director.
Saint Malo (Port)			29.66	753.5	69.4	20.8	51	SW			4		5		SW	0.177	4.50	Cloudy	M. H. Hercouet.
Tarbes, Normal School	28.70	729.0	29.73	755.2	51.8?	11?	90	SW			2		0			0	0	Clear	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.93	760.1	29.95	760.8	81.3	27.4										0	0		L'Abbé Marchési.
Lyons			30.06	763.4	75.2	24.0	48					0				0	0		L. Jays.
Marseilles, Observatory			29.82	757.5	81.5	27.5	66	NNW			1	10				0.016	0.40	Covered	The Staff.
Mont-Louis	24.88	631.9	30.10	766.9	72.1	22.3	35	SSW	35.4	15.83		1			S	0.169	4.3		M. Cave.
Nice			29.93	760.1	78.4	25.8	84	SW			3	3				0	0		Dr. A. Niepce.
Paris, Montsouris Obs'y	29.45	747.9	29.72	754.9	72.1	22.3	56	SW			6	7			WSW	0.020	0.5		Marié Davy, Director
Perpignan			29.92	760.0	81.3	27.4	45	NW	18.6	8.33		4			W	0	0		Dr. Fines.
Pic du Midi, (Summit,) H. P.																			M. Bayiac.
Pic du Midi, (Plantade,) H. P.	22.60	574.0			54.9	12.7		SW			4	8				0	0	Cloudy	Gen'l de Nansouty
Saint Maur, (near Paris)	29.58	751.2	29.74	755.4	70.3	21.3	61	SW			4	7			SW	0	0		E. Renou.
Toulouse, Observatory	29.32	744.7	30.04	763.1	71.8	22.1	53	NW			1	8				0	0		The Staff.
Tours	29.59	751.5	29.82	757.5	68.9	20.5	60	W			6	5			W	0.307	7.8		C. Marquet.
Versailles			29.74	755.4	70.9	21.6	45	SW			6	8				0.013	0.34	Squally	Dr. A. Bérigny.
Zi-Ka-Wei, (near Shanghai)	29.93	760.3	29.96	760.9	71.6	22.0	98	Calm	0	0		1				0	0	Clear	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferraud is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,055.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi. (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instru'tal error and temperature. Inches.	Barometer. Corrected for instru'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.92	734.6	29.74	755.3	72.3	22.4	65	SW			1		4	W		0	0		Prof. Dr. Hoh.
Berlin	29.66	753.4	29.83	757.6	76.8	24.9	63	S			2		6			0	0		Prof. Arndt.
Breslau	29.29	744.0	29.82	757.4	84.4	29.1	68	SW			4		6			0	0		Royal University Obs'y
Carlsruhe	29.39	746.6	29.80	757.0	71.6	22.0	67	SW			6		1			0.091	2.3		Albert Senz.
Cassel	29.17	740.8	29.77	756.1	75.2	24.0	52	W			4		5	W		0.243	6.17		Dr. H. Möhl.
Crefeld	29.50	749.2	29.66	753.3	69.4	20.8	59	S			5		9			0.20	5.		Director Lose.
Emden	29.49	749.0	29.53	750.0	68.9	20.5	79	S			4		5			0.398	10.1	Lightning	Prof. Prestel.
Frankfort on the Main	29.44	747.7	29.78	756.5	76.1	24.5		SW			4		4			0.543	13.8		Physical Society.
Friedrichshafen	28.52	724.3	29.91	759.7	66.2	19.0	90	W			1		10		W	0.110	2.8	Rainy	M. Wilhelm.
Hamburg	29.56	750.9	29.63	752.6	71.2	21.8	71	WSW			5		5c;ck	SW		0	0	Fair	Captain F. Hegemann.
Kiel	29.60	751.7	29.61	752.1	69.4	20.8	76	SSE			1		8			0.051	1.29		Prof. G. Karsten.
Königsberg, (Prussia)	29.77	756.1	29.85	758.1	69.6	20.9	66	SE			3		6			0.004	0.1		Prof. E. Luther.
Köslin			29.74	755.4	68.9	20.5		Calm			0		4			0	0		H. Müller.
Leipsic, Observatory	29.37	746.1	29.78	756.3	76.6	24.8	64	SSW			2		9	SW		0.016	0.4		Prof. Bruhns.
Memel, Naval School	29.83	757.6	29.87	758.8	66.9	19.4	75	WSW			0		3cs	NW					Reinbrecht and Skalweit.
Neufahrwasser	29.82	757.3	29.83	757.7	70.9	21.6	69	SE			2		10			0	0		A. Lothes.
Posen	29.54	750.4	29.82	757.4	77.7	25.4	62	S			1		9			0.012	0.3		Dr. Magener.
Strassburg (in Alsace)	29.34	745.3	29.87	758.8	68.4	20.2	76	S			5		3	W		0.087	2.20		Astronomical Observatory.
Stuttgart	28.92	734.6	29.83	757.6	69.8	21.0	82	W			1		9	W		0.016	0.4		Prof. Schoder.
Treves, (Trier)	29.25	742.9	29.76	756.0	70.5	21.4	57	SW			7		8			0.013	0.32		Prof. Flesch.
Weissenburg, (Bavaria)	28.41	721.6	29.86	758.4	70.3	21.3	78	SW	5.8	2.6			10			0.209	5.3	Light rain	Dr. Von Bebber.
Wustrow, Naval School	29.65	753.0	29.69	754.0	74.8	23.8	81	SE			3		8			0	0		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.56	759.0	29.93	760.2	93.0	33.9		SW			2.0							Clear	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.26	743.1	29.73	755.1	84.7	29.3	64	Calm					4	NE		0	0	D. clouds	
Bombay	29.65	753.2	29.69	754.1	82.9	28.3	89	NNW	16	7.2			10		SW	0.46	11.7	Overcast	
Poona	27.69	703.3	29.68	754.0	77.0	25.0	91	SW					10		SW	2.45	62.2	Thunder;light'ng	
Lahore	28.88	733.7	29.61	752.0	90.6	32.6	60	Calm	2.6	1.2			1			0	0	Blue sky	
Belgaum	27.22	691.3	29.75	755.6	75.1	23.9	90	WSW	7	3.1			9		W	0.02	0.5	D. clouds	
Roorkee	28.77	730.8	29.66	753.0	83.4	28.6	79	SE	3.7	1.6			6			0	0		
Agra	29.00	736.5	29.54	754.4	88.7	31.5	73	N					3		N	0	0		
Nagpur	28.68	728.5	29.72	754.8	80.1	26.7	91	Calm	2.1	0.9			8			0.35	8.9	Gloomy	
Lucknow																			
Allahabad	29.42	747.3	29.73	755.2	80.1	26.7	91	NNE	1.1	0.5			10		N	0.04	1.0	Gloomy	
Patna	29.55	750.4	29.73	755.0	84.4	29.1	87	E	2.0	0.9			10	E	E	0.38	9.6	Overcast	
Hazaribagh	27.76	705.1	29.78	756.3	75.8	24.3	89	ESE	7.1	3.2			10			0.07	1.8	Thunder storm	
Cuttack	29.68	753.9	29.76	755.9	85.8	29.9	76	S	2.3	1.0			3			0.04	1.0	D. clouds	
Calcutta (Alipore)	29.77	756.2	29.80	756.8	83.0	28.3	87	SE	3.0	1.3			9		SSW	0	0	D. clouds	
Goalpara	29.42	747.3	29.81	757.2	78.3	25.7	81	Calm	2.1	0.9			9			0.07	1.8	D. clouds	
Chittagong	29.78	756.4	29.87	758.7	78.9	26.1	95	Calm	4.4	2.0			10			0.20	5.1	Misty	
Sibsagar	29.46	748.4	29.80	756.8	82.7	28.2	80	NE	1.6	0.7			10	W	W	0.07	1.8	D. clouds	
Jubbulpore	28.36	720.4	29.72	754.8	82.8	28.2	81	NW	3.7	1.6			10			0.05	1.3	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,992.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer: Corrected for instrum'tal error and temperature. Inches.	Barometer: Corrected for instrum'tal error and temperature. Millimeters.	Barometer: Reduced to sea-level. Inches.	Barometer: Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.53	750.1	29.93	760.1	82.6	28.1	61	SE	0.7	0.3	.....	.....	0	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.80	757.0	29.91	759.7	83.7	28.7	57	S	0.7	0.3	.....	.....	3	.....	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.73	755.1	29.91	759.8	83.3	28.5	60	N	1.3	0.6	.....	.....	5	W	.....	0	0	.....	Cont' Alm. Da Schio.
Bergamo	28.67	728.2	29.93	760.2	75.2	24.0	75	SSW	.....	.....	2	.....	10	.....	.....	0.157	4.0	.....	Prof. Trionfini Carlo.
Milan	29.44	747.7	29.93	760.3	73.4	23.0	85	ENE	.....	.....	2	.....	9	W	.....	0.213	5.4	.....	Prof. Schiaparelli.
Moncalieri	29.05	737.9	29.92	760.0	68.9	20.5	93	NW	3.1	1.4	.....	.....	9	S	.....	0.146	3.7	.....	Prof. P. F. Denza.
Mondovi	28.68	713.1	29.95	760.6	73.8	23.2	80	NW	.....	.....	2	.....	9	.....	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.70	754.3	29.91	759.7	80.2	26.8	69	ENE	.....	.....	6	.....	8	W	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.78	756.3	29.94	760.4	81.0	27.2	62	SE	.....	.....	4	.....	8	SW	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.61	752.0	29.91	759.7	83.8	28.8	47	NE	.....	.....	4	.....	4	.....	.....	.....	.....	.....	Prof. P. Pigorini.
Florence	29.68	753.8	29.92	760.0	90.5	32.5	32	NW	.....	.....	2	.....	5	SW	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.82	757.5	29.91	759.6	82.0	27.8	62	SSW	6.9	3.1	.....	.....	10	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.47	723.0	29.95	760.8	87.1	30.6	33	SW	.....	.....	2	.....	5	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.81	757.2	29.98	761.5	90.9	32.7	32	SW	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U.	29.82	757.4	30.01	762.3	87.6	30.9	53	S	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.74	755.3	29.98	761.5	93.4	34.1	27	SSE	3.1	1.4	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.71	754.7	29.90	759.5	90.9	32.7	44	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.13	739.8	29.97	761.2	96.8	36.0	33	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.76	755.9	30.01	762.2	84.6	29.2	50	E	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.94	760.4	30.02	762.4	86.7	30.4	52	SE	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
SUB-SERIES.																			
Naples, S. R.	29.49	749.1	30.05	763.2	88.7	31.5	62	SW	0	0	.....	.....	0	.....	.....	0	0	.....	Prof. F. Brioschi.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.72	754.9	29.91	759.7	79.0	26.1	89	NNE	2.4	1.10	.....	.....	10s	.....	.....	0.023	0.59	Cloudy.....	
Tokei (Yeddo) Observatory	29.85	758.2	29.92	759.9	75.6	23.9	83	NE	8.2	3.7	.....	.....	10s	.....	.....	0.015	0.38	Cloudy.....	I. Arai, Director.
Tokei (Yeddo) University	29.80	756 9	29.89	759.0	74.6	23.7	90	ENE	5	2.2	.....	.....	10s	.....	.....	0	0	Cloudy.....	Prof. P. V. Veeder.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the SECRETARY OF PUBLIC WORKS.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	63.5	17.5	88	N	0.9	0.4	.....	2cs	8k	.....	E	0.70	17.8	Covered.....	L. Castillo, A. E.
Guadalajara	25.09	637.4	30.05	763.2	58.6	14.8	88	S	0.9	0.4	.....	0	6ks	.....	NE	0.01	0.2	⅓ cloudy.....	Prof. L. Perez.
Guanajuato	23.73	602.9	29.88	759.1	62.4	16.9	87	Calm	0	0	.....	0	10	.....	.....	0.50	12.7	Covered	Prof. V. Fernandez
Leon	24.47	621.7	29.92	760.2	64.4	18.0	93	E	0.9	0.4	.....	2c	8kn	NW	.....	0.49	12.4	Covered.....	Prof. M. Leal.
Mexico	23.14	587.8	30.13	765.3	57.2	14.0	91	Calm	0	0	.....	0	10k	.....	.....	0.24	6.0	Covered.....	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	61.5	16.4	94	NW	0.9	0.4	.....	3c	4ks	E	E	0.59	15.0	Cloudy.....	M. V. de Leon, M. E.
Puebla	23.38	593.9	29.99	761.8	57.9	14.4	92	SE	2.5	1.1	.....	0	10n	.....	S	0.59	15.0	Threatening	Prof. B. Gonzalez.
Tlacotalpam	29.95	760.8	29.97	761.1	79.7	26.5	80	S	0.9	0.4	.....	7ck	3k	.....	S	0	0	Covered.	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.14	765.6	63.0	17.2	39	SE	0.9	0.4	.....	0	8	.....	SE	0.04	1.0	Cloudy.....	G. Barroeta, M. D.
Vera-Cruz	29.94	760.3	29.97	761.0	77.9	25.5	87	Calm	0	0	.....	0	8ks	.....	.....	0.53	13.4	Cloudy.....	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	55.4	13.0	82	E	5.1	2.3	.....	2	5	SW	E	0	0	Cloudy.....	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.36	593.3	30.14	765.7	58.3	14.6	85	SE	0.5	0.2	.....	0	10	.....	S	0.39	17.5	Covered.....	Prof. P. Spina, [M. M. D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.41	721.6	30.06	763.4	76.1	24.5	93	E	3.6	1.6	.....	0	3	.....	.....	1.75	44.4	Clear.....	R. Banda, C. E.
San Juan E. Michapam	29.72	754.8	29.86	758.5	79.3	26.3	.....	Calm	0	0	.....	7c	3n	S	NE	0.07	1.8	Covered.....	Antonio Guerra y Guerra.
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NOTE.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.55	750.5	29.55	750.5	65.1	18.4	.....	WSW	.....	.....	5	.....	.....	.....	.....	0.398	10.1	.....	
Groningen	29.46	748.3	29.56	750.7	66.2	19.0	.....	S	.....	.....	4	.....	.....	.....	.....	0.370	9.4	.....	
Helder	29.44	747.8	29.44	747.8	67.6	19.8	.....	SSW	.....	.....	6	.....	.....	.....	.....	0.020	0.5	.....	
Hellevoetsluis	29.52	749.7	29.52	749.7	63.0	17.2	94	SW	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.51	749.6	29.54	750.8	68.5	20.3	68	SSE	.....	.....	6	.....	5	.....	.....	0.260	6.6	Cloudy.....	H. v d Brink.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.54	750.3	29.60	751.7	72.0	22.2	45	SSE	8.5	3.8	.....	.....	3	.....	.....	0	0	.....	
Brönö	29.79	756.6	29.83	757.6	54 0	12.2	87	N	9	4	.....	.....	4	.....	.....	0	0	.....	
Christiania	29.57	751.1	29.71	754.7	69.6	20.9	66	SE	9	4	.....	.....	10	.....	.....	0.016	0.4	.....	
Tromsö	29.87	758.6	29.91	759.7	54.0	12.2	72	N	4	2	.....	.....	0	.....	.....	0	0	.....	

Note.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.05	763.2	30.24	768.0	69.4	20.8	78	SE	1.8	0.8	.....	.....	4	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.62	737.2	30.05	763.2	79.3	26.3	30	NW	4.3	1.9	.....	.....	2	.....	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.02	762.5	30.11	764.7	79.3	26.3	47	SW	6.9	3.1	.....	.....	5	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.72	754.9	30.07	763.8	73.6	23.1	42	NNE	11.2	5.0	.....	.....	2	.....	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.19	766.7	30.22	767.5	72.0	22.2	56	N	0.7	0.3	.....	.....	4	.....	.....	0	0	.....	

Note.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m

Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 32° 42′, W. 17° 50′	.....	.....	30.06	763.5	76.1	24.5	.....	NNE	.....	.....	4	.....	7	.....	NE	5	.....	D. clouds	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.04	763.0	68.0	20.0	.....	WSW	.....	.....	2	.....	5	.....	WSW	2	W	D. clouds	A. J. de Mattos, Com'd't
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 24° 34′	.....	.....	29.96	761.0	84.2	29.0	.....	E	.....	.....	4	.....	6	.....	.....	4	E	D. clouds	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 48′, E. 13° 05′	.....	.....	29.96	761.0	74.3	23.5	.....	NW	.....	.....	2	.....	5	.....	NW	1	.....	D. clouds	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.45	748.0	29.85	758.2	73.8	23.2	59	S	7	3	.....	.....	9ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.49	749.1	29.90	759.4	66.0	18.9	69	Calm	0	0	.....	.....	8	.....	.....	.....	.....	Heavy clouds ...	Astronomical Obs.
Dorpat	29.58	751.2	29.81	757.2	61.3	16.3	97	SW	9	4	.....	.....	10n	.....	.....	.....	.....	Raining... ...	Prof. Dr. Weihrauch.
St. Petersburg	29.84	758.0	29.86	758.4	67.5	19.7	62	SE	16	7	.....	.....	8k	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.18	741.2	29.79	756.7	68.9	20.5	52	NW	13	6	.....	.....	6k	.....	.....	.....	.....	.....	Physical Cabinet.
Nikolaiev	29.82	757.3	29.89	759.1	77.4	25.2	46	NNW	9	4	.....	.....	3k	.....	.....	.....	.....	.....	Kurdakof.
Kertch	29.88	759.0	29.90	759.5	71.6	22.0	81	SW	7	3	.....	.....	10	.....	.....	.....	.....	Raining.....	Lagorio.
Moscow	29.38	746.2	29.92	760.0	55.4	13.0	96	SSE	9	4	.....	.....	10s	.....	.....	.....	.....	Raining..... ..	Meteorological Obs.
Lugan	29.52	749.7	29.72	754.8	63.1	17.3	93	S	2	1	.....	.....	8n	.....	.....	Blank	Blank	.....	Meteorological Obs
Archangel	30.00	762.0	30.02	762.5	68.0	20.0	73	SE	4	2	.....	.....	8k	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.46	722.8	29.80	757.0	77.4	25.2	42	NW	45	20	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	29.92	760.0	29.84	757.9	68.7	20.4	64	E	2	1	.....	.....	10sn	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.76	756.0	30.03	762 7	69.4	20.8	46	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	29.02	737.0	29.96	760.9	52.7	11.5	76	NNW	4	2	.....	.....	10	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.54	750.3	29.77	756.1	67.8	19.9	50	NNW	7	3	.....	.....	8ks	.....	.....	.....	.....	.....	
Tashkend	28.17	715.5	29.79	756.7	76.8	24.9	54	Calm	0	0	.....	.....	1c	.....	.....	.....	.....	.....	Michelson.
Barnaul	29.22	742.3	29.74	755.5	53.1	11.7	84	SE	0	0	.....	.....	9	.....	.....	.....	.....	Light clouds	Meteorological Obs.
Yeniseisk	29.46	748.3	29.74	755.4	64.9	18.3	79	NE	2	1	.....	.....	1	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.78	756.4	29.92	760.0	74.3	23.5	91	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Note.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 454.27 m., or 1,621.37 ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.76	755.9	29.86	758.4	83.8	28.8	69	E	1.4	0.61	.....	.....	5cs	.....	.....	0	0	Misty	Antonio Rave, Directo.
Bilbao, Met. Obs'y	29.97	761.3	30.03	762.7	78.8	26.0	52	NW	2.2	0.98	.....	3	4	SW	.....	0.004	0.1	Cloudy	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.10	688.4	.....	.....	71.6	22.0	56	SW	13.8	6.17	.....	.....	.....	.....	.....	0	0	Light clouds	Domingo Martin y Perez
Madrid, Royal Observatory	27.78	705.5	29.87	758.8	85.6	29.8	23	SW	8.9	4.00	.....	2	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.69	754 0	29.82	757.5	105.8	41.0	21	SW	3.5	1.58	.....	.....	.....	.....	.....	0	0	Clear	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.11	739.3	29.97	761.3	73.6	23.1	60	W	9.1	4.06	.....	.....	8	.....	.....	0.031	0.8	Cloudy	R. Gil Villanueva, Dir.
Sub-Series.																			
Havana, Cuba, W. I.	29.97	761.2	30.03	762.9	78.1	25.6	88	Calm	0	0	.....	2c	0	SSE	.....	0.961	24.4	Clear	Benito Vines, S. J.
Manilla, Philippine Islands	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.90	759.4	29.99	761.8	76.8	24.9	52	W	19.2	8.6	.....	1	1	W	W	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.93	760.3	30.02	762.6	82.0	27.8	88	SE	3.9	1.75	.....	3s	2k	SE	SE	0.049	1.25	Clear	Leonardo de Tejeda, Ch'f Eng'r.

Note.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer reduced to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.90	759.5	29.94	760.5	60.8	16.0	.....	NE	.....	.....	2	.....	8	.....	.....	0.079	2.0	.....	
Umea	29.87	758.7	29.92	760.0	59.7	15.4	85	NE	.....	.....	4	.....	10	.....	.....	0	0	.....	
Hernosand	29.82	757.4	29.87	758.7	57.9	14 4	92	NE	.....	.....	4	.....	10	.....	.....	0.008	0.2	.....	
Stockholm	29.66	753 4	29.84	757.9	63.1	17.3	77	Calm	.....	.....	0	.....	10	.....	.....	0	0	.....	
Wisby	29.74	755.4	29.80	756.9	63.7	17.6	82	NNW	.....	.....	4	.....	10	.....	.....	0	0	.....	
Sub-Series.																			
Upsala	29.75	755.6	29.82	757.5	60.8	16.0	86	WNW	2.2	1.0	.....	.....	10	.....	.....	0.030	0.76	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.59	726.2	29.99	761.7	64.2	17.9	90	S	.....	.....	1	.....	8	.....	.....	1.906	48.4	Raining	The Observatory.
Zurich	28.33	719.5	29.94	760.5	61.2	16.2	97	W	.....	.....	2	.....	10	.....	.....	0.732	18.6	Raining	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —1.3 mm.; Thermometer, —2.5 cent.; Relative Humidity, +32 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.95	760.8	85.6	29.8	40	S	8	3.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Valona	.....	.....	30.10	764.6	82.8	28.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertraud.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.68	753.9	29.79	756.6	86.9	30.5	65	NW	.....	.....	2	.....	1	.....	.....	0	0	D. clouds	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation; no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	29.92	760.0	29.98	761.5	60.0	15.6	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.79	756.7	30.09	764.3	66	18.9	.....	SE	1	0.4	.....	.....	Fog	.....	.....	0	0	Foggy	W. R. Bigg.
*Chatham, N B	29.91	759.7	29.97	761.2	57	13.9	90	Calm	0	0	.....	8cs	0	SW	.....	0.06	1.5	Fair	G. A. Blair.
Charlottetown, P. E. Island	29.90	759.4	29.94	760.5	63	17.2	83	NW	5	2.2	.....	.....	8ks	.....	NW	0.020	0.51	Cloudy	H. J. Cundall, C. E.
Cornwall, Ontario	29.88	758.9	30.07	763.8	64.6	18.1	94	SW	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.82	757.4	29.98	761.5	60	15.6	74	W	.....	.....	2	.....	.....	.....	.....	0	0	Fine	H. A. Johnson.
Esquimault, B. C	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. H. Bevis.
*Father Point, Quebec	29.90	759.4	29.92	760.0	51	10.6	83	W	12	5.4	.....	0	Haze	.....	Calm	0	0	Hazy	J. McWilliams.
Fredericton, N. B	29.95	760.7	30.01	762.2	62.0	16.7	83	NW	8	3.6	.....	0	5s	.....	.....	0.073	1.86	Fair	Prof. Harrison.
*Fort Garry Manitoba	28.88	733.5	29.67	753.6	65	18.3	86	S	14	6.3	.....	2ck	2ks	S	S	0	0	Fair	James Stewart.
Granton, Ontario	29.03	737.3	30.11	764.8	61	16.1	82	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	James Grant.
*Halifax, N. S	29.81	757.2	29.94	760.5	69	15.6	94	NW	3	1.3	.....	2ck	0	NW	.....	0.094	2.39	Fair	F. Allison, M. A.
Hamilton, Ontario	29.75	755.6	30.13	765.3	61.7	16.5	81	W	.....	.....	1	0	0	.....	.....	0	0	Clear	Geo. Dickson, M. A.
Heart's Content, N. F	29.80	756.9	29.83	757.7	60	15.6	88	SW	.....	.....	1	.....	10	.....	.....	0.20	5.1	Raining	E. Weedon.
*Kingston, Ontario	29.79	756.7	30.11	764.8	68	20.0	87	SW	1	0.4	.....	2k	Fog	SW	SW	0	0	Fair	S. Woods, M. A.
Little Glace Bay, N. S	29.85	758.2	29.89	759.2	65.6	18.7	.....	W	8	3.6	.....	6k	0	W	.....	0.16	4.1	Fair	C. H. Rigby.
*Montreal, Quebec	29.89	759.2	30.08	764.0	66	18.9	79	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.44	747.8	30.12	765.0	60	15.6	99	W	3	1.3	.....	Haze	Haze	W	W	0	0	Hazy	Rev. R. Mosley.
Peterboro, Ontario	29.37	746.0	30.10	764.5	64.2	17.9	86	S	.....	.....	1	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.42	747.3	30.10	764.5	62	16.7	83	N	5	2.2	.....	0	0	.....	.....	0	0	Clear	H. Morgan.
Port Hastings, N. S	29.89	759.2	29.93	760.2	64.3	17.9	.....	NW	2	0.9	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.46	748.3	30.09	764.3	61	16.1	83	NE	6	2.7	.....	0	Haze	.....	.....	0	0	Hazy	M. Payne.
*Quebec, Quebec	29.75	755.6	30.07	763.8	59	15.0	70	NW	.....	.....	1	0	0	.....	.....	0	0	Clear	Capt. Ashe, R. N
*Rockliffe, Ontario	29.66	753.4	30.12	765.0	56	13.3	93	NW	4	1.8	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	29.96	761.0	30.01	762.2	58	14.4	96	N	.....	.....	.....	.....	Fog	.....	.....	0	0	Foggy	Dr. Gove.
St. John, N. B	29.84	757.9	30.00	762.0	55	12.8	100	E	1	0.4	.....	.....	10s	.....	.....	0.06	1.5	Cloudy	G. Murdock, C. E.
*Saugeen, Ontario	29.42	747.3	30.13	765.3	58	14.4	92	SE	7	3.1	.....	.....	Fog	.....	.....	0	0	Foggy	K. Stewart.
Stayner, Ontario	29.33	745.0	30.09	764.3	65	18.3	78	Calm	0	0	.....	0	Sm'e	.....	.....	0	0	Smoky	R. J. Cole.
Stratford, Ontario	28.87	733.3	30.13	765.3	56.7	13.7	98	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	C. J. MacGregor, M. A.
*Sydney, C. B	29.88	758.9	29.91	759.7	63	17.2	82	W	7	3.1	.....	8k	2ks	NW	NW	0.01	0.3	Fair	T. C. Hill.
*Toronto, Ontario	29.74	755.4	30.11	764.8	67	19.4	78	NE	1	0.4	.....	2cs	Haze	Calm	Calm	0	0	Hazy	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	64.0	17.8	89	S	.....	.....	.....	5c	5s	.....	.....	0.02	0.5	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

By authority of the **SECRETARY OF WAR.** UNITED STATES SERIES.

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From —	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.87	758 7	30.09	764.3	67	19.4	74	S	1	0.4	.....	Haze	0	.....	.....	0	0	Clear	
Alpena, Michigan	29.48	748.8	30.10	764.5	62	16.7	62	W	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Atlantic City, New Jersey	30.10	764.5	30.12	765.0	71	21.7	85	NE	6	2.7	.....	0	8s	.....	NW	0	0	Fair	
Augusta, Georgia	29.83	757.7	30.01	762.2	75	23.9	90	N	3	1.3	.....	.....	10s	.....	SW	0.51	13.0	Cloudy	
Baltimore, Maryland	30.06	763.5	30.11	764.8	72	22.2	85	SE	3	1.3	.....	5k	Sm'e	Calm	Calm	0.02	0.5	Fair	
Barnegat, New Jersey	30.10	764.5	30.13	765.3	70	21.1	75	SE	4	1.8	.....	2ck	2s	Calm	Calm	0	0	Fair	
Bismarck, Dakota	28.07	713.0	29.92	760.0	66	18.9	69	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boerne, Texas	28.44	722.4	.....	.....	70	21.1	75	W	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Boise City, Idaho	27.20	690.9	30.16	766.1	60	15.6	70	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	29.93	760.2	30.08	764.0	67.5	19.7	74	W	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Brackettville, Texas	28.86	733.0	29.85	758.4	71	21.7	77	N	1	0.4	.....	0	0	.....	.....	0.03	0.8	Clear	
Breckenridge, Minnesota	28.88	733.5	29.84	757.9	62	16.7	88	S	16	7.2	.....	2ck	0	Calm	.....	0	0	Fair	
Brownsville, Texas	29.89	759.2	29.96	761.0	78	25.6	90	Calm	0	0	.....	.....	10s	.....	N	0.32	8.1	Cloudy	
Buffalo, New York	29.41	747.0	30.09	764.3	65	18.3	84	NE	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Burkes, Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Burlington, Vermont	29.87	758.7	30.12	765.0	68	20.0	84	S	4	1.8	.....	0	Haze	.....	.....	Inap.	Inap.	Clear	
Cairo, Illinois	29.56	750.8	29.94	760.5	68	20.0	84	N	6	2.7	.....	0	8s	.....	N	0	0	Fair	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	84	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.26	641 6	30.06	763.5	67	19.4	79	E	.....	.....	1	.....	10s	.....	E	0	0	Cloudy	
Camp Verde, Arizona	26.80	680.7	30.28	769.1	74	23.3	72	S	.....	.....	1	0	0	.....	.....	0	0	Clear	
Campo, California	27.37	695.2	29.94	760.5	54	12.2	68	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.02	762.5	30.03	762.5	78	25.6	91	Calm	0	0	.....	8c	2cs	W	NE	0.41	10.4	Cloudy	
Cape Henry, Virginia	30.04	763.0	30.07	763.8	75	23.9	77	E	15	6.7	.....	.....	10s	.....	SW	0	0	Cloudy	
Cape Lookout, N. Carolina	30.01	762.2	30.03	762.7	79	26.1	91	S	8	3.6	.....	8cs	0	W	.....	2.05	52.1	Cloudy	
Cape May, New Jersey	30.10	764.5	30.12	765.0	72	22.2	76	E	4	1.8	.....	5cs	2s	W	W	0	0	Fair	
Castroville, Texas	29.18	741.2	29.87	758.7	70	21.1	75	W	4	1.8	.....	0	0	.....	.....	0.02	0.5	Clear	
Charleston, South Carolina	29.98	761.5	30.04	763.0	84	28.9	83	SW	4	1.8	.....	5cs	5s	W	SW	0	0	Cloudy	
Cheyenne, Wyoming	24.19	614.4	30.13	765.3	58	14.4	64	N	4	1.8	.....	2ck	0	Calm	.....	0	0	Clear	
Chicago, Illinois	29.38	746.2	30.04	763.0	70	21.1	75	NE	5	2.2	.....	0	Sm'e	.....	.....	0	0	Clear	
Cincinnati, Ohio	29.35	745.5	29.98	761.5	67	19.4	74	N	5	2.2	.....	5k	5s	N	N	0	0	Cloudy	
Cleveland, Ohio	29.36	745.7	30.06	763.5	68	20.0	74	E	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Coleman City, Texas	28.26	717.8	29.89	759.2	63	17.2	83	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Columbus, Ohio	29.19	741.4	30.0	762.0	65	18.3	78	N	2	0.9	.....	2c	Haze	Calm	Calm	0	0	Fair	
Coneno, Texas	28.14	714.7	29.84	757.7	58	14.4	81	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.52	749.8	29.98	761.5	68	20.0	90	NE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.48	748.8	30.10	764.5	64	17.8	78	Calm	0	0	.....	0	Sm'e	.....	NE	0	0	Clear	
Denison, Texas	29.22	742.2	29.99	761.7	68	20.0	90	NW	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Denver, Colorado	24.91	632.7	30.13	765.3	66	18.9	50	NW	4	1.8	.....	.....	8s	.....	Calm	0	0	Cloudy	
Des Moines, Iowa	29.22	742.2	30.07	763.8	69	20.6	75	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Detroit, Michigan	29.42	747.3	30.07	763.8	63	17.2	83	NE	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Dodge City, Kansas	27.52	699.0	29.78	756.4	59	15.0	88	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.42	747.3	30.10	764.5	59	15.0	88	NE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.32	744.7	29.97	761.2	66	18.9	79	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Eagle Pass, Texas	29.19	741.4	29.90	759.4	75	23.9	86	Calm	0	0	.....	0	1s	.....	Calm	Inap.	Inap.	Clear	
Eastport, Maine	29.95	760.7	30.01	762.2	57	13.9	94	S	1	0.4	.....	.....	Fog	.....	Calm	0.04	1.0	Foggy	
Edinburg, Texas	.....	.....	.....	.....	78	25.6	86	Calm	.....	.....	0	0	8ks	.....	E	0.90	22.9	Fair	
El Paso, Texas	.....	.....	.....	.....	75	23.9	76	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.38	746.2	30.09	763.5	69	20.6	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Escanaba, Michigan	29.44	747.8	30.08	764.0	60	15.6	77	SW	3	1.3	.....	Haze	Haze	.....	.....	0	0	Hazy	
Florence, Arizona	.....	.....	.....	.....	80	26.7	59	E	.....	.....	1	5ck	0	E	.....	0	0	Fair	
Fort Craig, New Mexico	25.61	650.5	29.68	753.9	65	18.3	83	SW	1	0.4	.....	5cs	0	NW	.....	0	0	Fair	
Fort Davis, Texas	25.32	643.1	30.28	769.1	63	17.2	73	NW	4	1.8	.....	5c	0	N	.....	0.30	7.6	Fair	
Fort Gibson, Indian Ter	29.48	748.8	30.00	762.0	85	18.3	89	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Clear	
Fort Griffin, Texas	28.79	731.3	30.04	763.0	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.84	707.1	29.68	753.9	75	23.9	72	SE	3	1.3	.....	2c	0	NE	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.83	732.3	29.92	760.0	60	15.6	82	N	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.26	717.8	29.77	756.1	68	20.0	74	Calm	0	0	.....	0	0	.....	.....	0.02	0.5	Clear	
Galveston, Texas	29.87	758.7	29.91	759.7	78	25.6	82	NE	5	2.2	.....	2k	0	Calm	.....	0	0	Clear	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.46	748.3	30.00	762.0	62	16.7	83	N	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Indianapolis, Indiana	29.25	742.9	30.01	762.2	65	18.3	84	NE	5	2.2	.....	2cs	0	Calm	.....	Inap.	Inap.	Clear	
Indianola, Texas	29.92	760.0	29.94	760.5	78	25.6	86	N	14	6.3	.....	1k	0	Calm	.....	0.12	3.0	Clear	
Jacksboro, Texas	28.89	733.8	30.00	762.0	66	18.9	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	29.99	761 7	30.01	762.2	82	27.8	79	Calm	0	0	.....	0	0	.....	.....	Inap.	Inap.	Clear	
Keokuk, Iowa	29.44	747.8	30.03	762.7	68	20.0	79	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Clear	
Key West, Florida	29.99	761.7	30.02	762.5	85	29.4	72	Calm	0	0	.....	6c;k	0	Calm;SE	.....	0	0	Fair	
Kittyhawk, North Carolina	30.02	762.5	30.05	763.3	75	23.9	95	E	9	4.0	.....	.....	10ks	.....	E	0.02	0.5	Cloudy	
Knoxville, Tennessee	29.90	736.6	29.96	761.0	70	21.1	92	Calm	0	0	.....	.....	10n	.....	Calm	0.45	11.4	Light rain	
La Crosse, Wisconsin	29.34	745.2	30.05	763.3	69	20.6	70	S	4	1.8	.....	.....	10s	.....	Calm	0	0	Cloudy	
La Mesilla, New Mexico	26.15	664.2	30.30	769.6	66	18.9	79	Calm	0	0	.....	0	2s	.....	Calm	0	0	Fair	
Laredo, Texas	29.52	749.8	29.85	758.2	77	25.0	92	NW	1	0.4	.....	5ck	0	Calm	.....	1.58	40.1	Fair	
Lead City, Dakota	24.95	633.7	30.22	767.6	55	12.8	74	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Leavenworth, Kansas	29.23	742.4	30.06	763.5	60	15.6	82	Calm	0	0	.....	0	Sm'e	.....	Calm	0	0	Smoky	
Los Angeles, California	29.56	750.8	29.89	759.2	61	16.1	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.42	747.3	29.96	761.0	68	20.0	79	N	7	3.1	.....	5c	2s	E	Calm	0	0	Fair	
Lynchburg, Virginia	29.42	747.3	30.07	763.8	71	21.7	85	SE	4	1.8	.....	.....	10ks	.....	Calm	0	0	Cloudy	
Marquette, Michigan	29.35	745.5	30.02	762.5	69	20.6	65	N	4	1.8	.....	0	Sm'e	.....	N	0	0	Smoky	
Mason, Texas	28.39	721.1	30.03	762.7	68	20.0	69	W	3	1.3	.....	Haze	Haze	Calm	Calm	0.41	10 4	Hazy	
Memphis, Tennessee	29.66	753.4	29.97	761.2	70	21.1	84	NE	4	1.8	.....	.....	10s	.....	N	0.72	18.3	Cloudy	
Milwaukee, Wisconsin	29.34	745.7	30.08	764.0	58	14.4	82	N	6	2.7	.....	0	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.88	758.9	29.92	760.0	76.5	24.7	93	S	5	2.2	.....	.....	10n	.....	SW	1.35	34.3	Light rain	
Montgomery, Alabama	29.71	754.6	29.94	760.5	74	23.3	85	Calm	0	0	.....	.....	10s	.....	Calm	1.05	26.7	Threatening	
Morgantown, West Virginia	29.02	737.1	30.04	763.0	68	20.0	84	NW	1	0.4	.....	5c	Fog	NW	Calm	0	0	Fair	
Mt. Washington, N. H.	23.99	609.3	30.35	770.9	43	6.1	91	NW	19	8.5	.....	0	2ks	.....	NW	0.20	5.1	Clear	
Nashville, Tennessee	29.43	747 5	29.95	760.7	71	21.7	85	Calm	0	0	.....	.....	10s	.....	N	0.88	22.4	Cloudy	
New Haven, Connecticut	30.00	762.0	30.11	764.8	71	21.7	66	W	1	0.4	.....	0	0	.....	.....	0	0	Clear	
New London, Connecticut	30.04	763.5	30.11	764.8	71	21.7	62	Calm	0	0	.....	Haze	Haze	Calm	Calm	0	0	Light haze	
New Orleans, Louisiana	29.84	757.9	29.89	759.2	78	25.6	78	NE	4	1.8	.....	5ck	5ks	Calm	W	2.16	54.0	Clearing	
Newport, Rhode Island	30.04	763.0	30.09	764.3	66	18.9	74	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
New York, New York	29.95	760.7	30.13	765.3	67	19.4	84	SW	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Norfolk, Virginia	30.02	762.5	30.07	763.8	73	22.8	85	E	5	2.2	.....	.....	10s	.....	Calm	0	0	Cloudy	
North Platte, Nebraska	27.16	689.8	29.67	753.6	60	15.6	78	SE	8	3.6	.....	5c	0	W	.....	0	0	Fair	
Olympia, Washington Ter.	30.04	763.0	30.08	764.0	54	12.2	93	SW	2	0.9	.....	0	Fog	.....	Calm	0	0	Clear	
Omaha, Nebraska	28.97	735.8	30.02	762 5	63	17.2	83	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Clear	
Oswego, New York	29.80	756.9	30.12	765.0	65	18.2	80	SW	3	1.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Pembina, Dakota	28.91	734.3	29.70	754.4	63	17.2	83	S	12	5.4	.....	0	5ks	.....	W	0	0	Fair	
Philadelphia, Pennsylvania	30.09	764.3	30.14	765.5	70	21.1	80	E	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	

UNITED STATES SERIES.—CONTINUED.

STATIONS.	Barometer. Correcte for instrum'tal error and temperature. Inches.	Barometer. Correcte for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.74	730.0	.....	.....	86	30.0	61	E	.....	.....	1	0	10ks	.....	NE	0	0	Cloudy	
Pike's Peak, Colorado	18.11	460.0	30.32	770.1	36	2.2	45	Calm	0	0	.....	0	5ks	.....	Calm	0	0	Fair	
Pioche, Nevada	24.18	614.2	29.95	760.7	65	18.3	39	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.26	743.2	30.04	763.0	66	18.9	84	NE	1	0.4	.....	0	Fog	.....	Calm	0	0	Clear	
Port Huron, Michigan	29.44	747.8	30.08	764.0	70	21.1	66	NE	5	2.2	.....	0	Sm'e	.....	.....	0	0	Clear	
Portland, Maine	30.00	762.0	30.05	763.3	68	20.0	84	NW	7	3.1	.....	0	Haze	.....	.....	0	0	Clear	
Portland, Oregon	30.09	764.3	30.19	766.8	58	14.4	88	NW	2	0.9	.....	.....	10s	.....	NW	0	0	Cloudy	
Prescott, Arizona	24.89	632.2	30.25	768.3	63	17.2	83	Calm	0	0	.....	0	0	.....	.....	0.90	22.9	Clear	
Pilot Point, Texas	29.23	742.4	29.99	761.7	79	26.1	43	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Punta Rassa, Florida	30.01	762.2	30.03	762.7	84	28.9	75	S	8	3.6	.....	5k	0	S	.....	0.02	0.5	Fair	
Red Bluff, California	29.50	749.3	29.84	757.9	73	22.8	59	N	5	2.2	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.78	756.4	29.98	761.5	82	27.8	56	NE	4	1.8	.....	2k	0	NE	.....	0	0	Clear	
Rochester, New York	29.51	749.5	30.11	764.8	64	17.8	89	SW	4	1.8	.....	0	Fog	.....	Calm	0	0	Light fog	
Roseburg, Oregon	29.62	752.3	30.19	766.8	55	12.8	84	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sacramento, California	29.77	756.1	29.85	758.2	66	18.9	69	S	1	0.4	.....	0	0	.....	.....	0	0	Clear	
St. Louis, Missouri	29.47	748.5	30.03	762.7	66	18.9	79	N	8	3.6	.....	0	5s	.....	Calm	0	0	Fair	
St. Marks, Florida	29.94	760.5	29.96	761.0	77	25.0	95	SE	2	0.9	.....	8k	0	SW	.....	0.22	5.6	Fair	
St. Paul, Minnesota	29.17	740.9	29.97	761.2	61	16.1	88	SE	5	2.2	.....	0	Sm'e	.....	Calm	0	0	Clear	
Salt Lake City, Utah	25.72	653.3	30.05	763.3	67	19.4	37	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.29	744.0	29.85	758.2	70	21.1	85	N	2	0.9	.....	0	0	.....	.....	0.04	1.0	Clear	
San Diego, California	29.87	758.7	29.94	760.5	64	17.8	89	NW	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.41	747.0	30.06	763.5	70	21.1	90	E	5	2.2	.....	Haze	0	Calm	.....	0.01	0.3	Clear	
Sandy Hook, New Jersey	30.09	764.3	30.12	765.0	74	23.3	68	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
San Francisco, California	29.81	757.2	29.88	758.9	57	13.9	87	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Santa Fé, New Mexico	23.43	595.1	29.97	761.2	56	13.3	69	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Savannah, Georgia	29.92	760.0	30.01	762.2	85	29.4	72	SW	4	1.8	.....	5cs	Haze	SW	Calm	0.05	1.3	Clear	
Shreveport, Louisiana	29.76	755.9	29.97	761.2	70	21.1	85	N	3	1.3	.....	0	0	.....	.....	0	0	Fair	
Silver City, New Mexico	24.40	619.8	.....	.....	61	16.1	94	S	1	0.4	.....	2ck	2cs	Calm	Calm	0.16	4.1	Clear	
Smithville, North Carolina	30.02	762.5	30.05	763.3	81	27.2	91	W	2	0.9	.....	5c	5ks	SW	SW	0	0	Fair	
Springfield, Massachusetts	29.98	761.5	30.10	764.5	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Cloudy	
Stockton, Texas	27.03	686.6	30.03	762.7	60	15.6	33	S	3	1.3	.....	0	Haze	.....	Calm	0	0	Clear	
Thatcher's Island, Mass	30.02	762.5	30.07	763.8	64	17.8	84	N	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Toledo, Ohio	29.39	746.5	30.05	763.3	64	17.8	83	NE	6	2.7	.....	0	Haze	.....	Calm	0	0	Hazy	
Tucson, Arizona	27.22	691.4	29.77	756.1	78	25.6	82	SE	2	0.9	.....	.....	10s	.....	S	0.38	9.7	Cloudy	
Tybee Island, Georgia	29.98	761.5	30.01	762.2	79	26.1	91	S	2	0.9	.....	2c	2ks	SW	S	0	0	Fair	
Umatilla, Oregon	29.64	752.8	.....	.....	61	16.1	45	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	45	7.2	100	N	.....	.....	2	.....	10n	.....	N	0.15	3.8	Raining	
Uvalde, Texas	29.06	738.1	29.86	758.4	70	21.1	80	NE	1	0.4	.....	2k	0	NW	.....	0.17	4.3	Clear	
Vicksburg, Mississippi	29.70	754.4	29.95	760.7	70	21.1	100	NE	5	2.2	.....	.....	10s	.....	Calm	0.86	21.8	Cloudy	
Virginia City, Montana	24.45	621.0	29.93	760.2	54	12.2	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.53	750.0	29.89	759.2	62	16.7	78	NW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C.	30.02	762.5	30.13	765.3	72	22.2	90	NE	3	1.3	.....	5ck	5ks	W	E	0.04	1.0	Cloudy	
Wickenburg, Arizona	.....	.....	.....	.....	76	24.4	86	Calm	.....	.....	0	0	2s	.....	Calm	0.06	1.5	Fair	
Wilmington, N. Carolina	29.96	761.0	30.04	763.0	81	27.2	86	Calm	0	0	.....	10c	0	NW	.....	0.25	6.3	Cloudy	
Winnemucca, Nevada	25.72	653.3	30.08	764.0	58	14.4	37	NE	9	4.0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.04	763.0	30.09	764.3	68	20.0	84	W	2	0.9	.....	Haze	0	Calm	.....	0	0	Clear	
Yankton, Dakota	28.78	731.0	30.04	763.0	58	14.4	87	S	1	0.4	.....	5c	0	W	.....	0	0	Fair	
Yuma, Arizona	29.64	752.8	29.79	756.7	80	26.7	58	Calm	0	0	.....	2cs	0	Calm	.....	0	0	Fair	
SUB-SERIES.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.80	756.9	29.85	758.2	49.0	9.4	96	SE	14	6.3	.....	4k	0	E	.....	0	0	Cloudy	J. Fortescue, W. Wood.
Havana, Cuba, W. I	30.02	762.5	30.04	763.0	81	27.2	82	SE	2.4	1.1	.....	4c	0	Calm	.....	0	0	Fair	Chas. Hasselbrink.
Santiago de Cuba, W. I	29.99	761.7	30.01	762.2	81	27.2	78	N	4.8	2.1	.....	4c	0	SW	.....	0	0	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	83	28.3	83	E	2	0.9	.....	2c	2ks	E	.....	0.10	2.5	Clear	G. O. Gellich.
Kingston, Jamaica, W. I	30.17	766.3	30.18	766.6	82	27.8	87	Calm	0	0	.....	8c	0	Calm	.....	0	0	.....	James Galt.
Navassa, W. I	29.92	760.0	30.00	762.0	84	28.9	.....	E	8.3	3.7	.....	.....	.....	.....	.....	0	0	Fair	F. M. Everett.
Paramaribo, D. Guiana, S. A	30.08	764.0	30.08	764.0	80	26.7	87	E	.....	.....	2	4c	6ks	NE	.....	0.130	3.30	Fair	C. J. Hering
Medellin, Colombia, S. A	25.27	641.8	.....	.....	67.5	19.7	83	Calm	0	0	.....	1k	3ks	.....	.....	0	0	.....	Thomas Herran

NOTE.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?)m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m.; Coleman City, 1,727 (?) ft., or 526.4(?) m.; Concho, 1,759 (?) ft., or 533.4 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City., 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft., or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft.,or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,500 (?) ft., or 472.5 (?) m.; Fredericksburg, 1,614 ft., or 492.0 m.; Graham, 1,040 (?) ft., or 317.0 (?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown, 1,027.9 ft., or 313.3 m.; Medellin, 4,876 ft., or 1,486.2 m.; Mt. Washington, 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft.,or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4, m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.54 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.00	762.0	80	26.7	80	26.7	87	NW	6	2.7	.....	.....	.....	.....	SW	2.16	54.9	.....	.....	.....	
Navy Yard, Portsmouth, N.H	30.06‡	763.5‡	.....	.....	65	18.3	84	W	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear	
Naval Hospital, Yokohama, Japan	29.90*	759.4*	77.5	25.3	76	24.4	82	E	.....	.....	3	.....	7k	.....	N	0	0	.....	.....	Lightning	
Adams. S. 26° 05′, W. 173° 45′	30.21	767.3	70	21.1	68	20.0	100	ENE	.....	.....	3–4	.....	1	.....	NE	.....	.....	Long	S;W	Cloudy	
Alliance. Villafranca, France	29.91‡	759.7‡	.....	.....	77	25.0	82	E	.....	.....	2	.....	8	.....	E	.....	.....	.....	.....	Rainy	
Ashuelot. Yokohoma, Japan	29.98	761.5	80	26.7	79	26.1	78	NE	.....	.....	5	.....	.....	.....	ENE	.....	.....	Mod'ate	ESE	.....	
Alaska. S. 49° 59′, W. 65° 55′	30.03	762.7	54	12.2	43	6.1	83	W	.....	.....	1	.....	2	.....	W	0	0	Smooth	.....	D. clouds	
Canonicus, New Orleans, La	29.94	760.5	53	11.7	76	24.4	95	W	.....	.....	1	.....	10	.....	.....	.....	.....	.....	.....	Cloudy	
Colorado. New York, N. Y	30.08‡	764.0‡	.....	.....	73	22.8	72	WSW	3	1.3	.....	.....	8	.....	W	0	0	.....	.....	Foggy	
Constitution, Havre, France	29.59‡	751.6‡	.....	.....	64	17.8	??	SW	.....	.....	5	.....	9	.....	SW	.....	.....	.....	.....	Showery	
Despatch, Constantinople, Turkey	29.99‡	761.7‡	.....	.....	81	27.2	83	S	.....	.....	1	.....	2	.....	Calm	.....	.....	.....	.....	Clear	
Franklin, Norfolk, Va	30.21	767.3	75	23.9	74	23.3	90	NE	5	2.2	.....	.....	8	.....	ESE	0	0	.....	.....	Cloudy	
Gettysburg Toulon, France	29.80‡	756.9‡	.....	.....	86	30.0	100	SE	.....	.....	1–2	.....	5	.....	Calm	0	0	.....	.....	Cloudy	
Hartford, Rio de Janeiro, Brazil	30.29	769.4	.....	.....	67	19.4	69	NNW	4.0	1.8	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	
Marion, Leghorn, Italy	29.98	761.5	77	25.0	76	24.4	95	E	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Michigan. Detroit, Mich	29.60	751.8	68	20.0	65	18.3	78	NE	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Monocacy. Yokohama, Japan	29.90‡	759.4‡	.....	.....	80	26.7	78	ENE	.....	.....	2–3	.....	10	.....	NE	.....	.....	.....	.....	Cloudy	
New Hampshire, Port Royal, S. C	30.22	767.6	84	28.9	82	27.8	79	SW	7	3.1	.....	.....	5	.....	SW	0	0	.....	.....	Fair	
Onward, Callao, Peru	30.14†	765.5†	.....	.....	61	16.1	82	SE	.....	.....	2	.....	10	.....	.....	.....	.....	Long	W	Misty	
Passaic, Washington, D. C	.....	.....	.....	.....	72	22.2	100	NE	.....	.....	1	.....	8	.....	W	0.2	5.	.....	.....	Cloudy	
Palos, Tientsin, China	30.03	762.7	79	26.1	75	23.9	86	SSE	.....	.....	5	.....	10?	.....	.....	.....	.....	.....	.....	Clear?	
Plymouth. New York, N. Y	30.12	765.0	69	20.6	74	23.3	63	SW	.....	.....	0–1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Ranger. Hong-Kong, China	30.02	762.5	85	29.4	87	30.6	84	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Rio Bravo. Brownsville, Texas	29.88	758.9	79	26.1	79	26.1	95	N	.....	.....	.....	.....	8	.....	N	.....	.....	.....	.....	Fair	
Santee, Annapolis, Md	30.10‡	764.5‡	.....	.....	74	23.3	86	SE	.....	.....	2	.....	8	.....	W	0	0	.....	.....	Cloudy	
St. Louis, League Island, Pa	30.08	764.0	71	21.7	70	21.1	85	SE	3	1.3	.....	.....	2	.....	.....	0	0	.....	.....	Fair	
Supply, Havre, France	29.70	754.4	67	19.4	66	18.9	84	WSW	.....	.....	6	.....	8	.....	WSW	.....	.....	.....	.....	Cloudy	
Swatara, Boston, Mass	30.04‡	763.0‡	.....	.....	70	21.1	85	NW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	.....	Clear	
Trenton, Cherbourg, France	29.54‡	750.3‡	.....	.....	64	17.8	83	W	.....	.....	4–6	.....	9	.....	W	0.6	15.	.....	.....	Drizzling	
Tuscarora. Off La Paz, Mexico	29.71	754.6	74	23.3	76	24.4	77	S	.....	.....	3	.....	8	.....	Calm	0	0	.....	.....	Fair	
Vandalia. Villafranca, France	29.89‡	759.2‡	.....	.....	78	25.6	82	ESE	.....	.....	1–3	.....	8	.....	ESE	.....	.....	.....	.....	Rainy	
Wabash, Boston, Mass	30.05‡	763.3‡	.....	.....	68	20.0	75	NW	3	1.3	.....	.....	0	.....	.....	0	0	.....	.....	Clear.	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity.

*It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.						
											Up'er	Low'r	Upper.	Lower.		Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	0—10.	0—10.	From—	From—					
PACIFIC MAIL S. S. CO. MARINE SERIES. Furnished by the co-operation of ————, President; Williams, Blanchard & Co., Agents.																			
S. S. Alaska																			
S. S. China																			
S. S. City of New York																			Capt. Berry.
S. S. City of Panama																			Capt. Cobb.
S. S. City of Peking, Yokohama, Japan		29.87	758.7	77	25.0	82	NE	4	1.8			5		NE	0	Smooth		Lightning	Capt. Seabury.
S. S. City of Sydney																			Capt. Cavarly.
S. S. City of Tokio																			Capt. Dearborn.
S. S. Colima, N. 7° 3′, W. 80° 53′		30.02†	762.5†	79	26.1	100	WSW			3		10		W	Blank	Small	SW	Showery	Capt. Maury.
S. S. Costa Rica																			Capt. Searle.
S. S. Dakota, Esquimault, B. C.		30.05†	763.3†	62	16.7	??	NW			1		4		NW	0			Clear.	Capt. Whitebury.
S. S. Georgia																			Capt. Morse.
S. S. Grenada																			Capt. Connolly.
S. S. Wilmington																			Capt. Austin.
S. S. Zelandia																			Capt. A. Fuller.
																			Capt. Ghest.
WHITE STAR LINE MARINE SERIES. Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.																			
S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Liverpool		29.30*	744.2*	70	21.1	49	N			3				NNE	3 hours			D. clouds	Capt. B. Gleadell.
S. S. Germanic, N. 49° 33′, W. 29° 04′		30.12†	765.0†	60	15.6	100	S			3		2		SE	0	Cross	SE; SW	D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.
OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES. Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.																			
S. S. Belgic, Hong-Kong, China		29.75*	755.6*	86	30.0	76	SW			2		k		SW		Smooth	SW	D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 10′, E. 172° 30′		30.17†	766.3†	72	22.2	??	Var.			2		cn		Var.	Blank	Smooth	NW	D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 41° 17′, W. 132° 02′		30.14	765.5	62	16.7	94	N			3		0				1	NW	Blue sky	Capt. John Metcalf.
NORTH GERMAN LLOYD OF BREMEN MARINE SERIES. Furnished by the coöperation of A. Schumacher & Co., Agents.																			
S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 42° 52′, W. 59° 2′		29.98	761.5	65	18.3	??	NW			3		0			0	Light	SE	Fine	Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. Undütsch.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall of melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction From—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																		Captain Shackelford.	
S. S. Indiana, N. 42°, W. 64° 25'		30.07*	763.8*	63	17.2	89	WNW			1		3		ESE	Light	Smooth		Clear	Captain Sargent.
S. S. Ohio, N. 49° 44' W. 23° 4'		30.08	764.0	63	17.2	83	WNW			1		0			0	Small	N		Captain Morrison.
S. S. Pennsylvania, N. 50° 56', W. 15° 24'		29.87†	758.7†	60	15.6	100	NNW			4		6?		N	Blank	Light	N	Clear?	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

Furnished by the coöperation of James A. Wright, President; Peter Wright & Sons, Agents.

S. S. Nederland																		Capt. Randle.	
S. S. Switzerland																		Capt. Jackson.	
S. S. Vaderland																		Capt. Nichols.	

ALLAN LINE MARINE SERIES.

Furnished by the coöperation of A. Schumacher, & Co., Agents.

S. S. Austrian																		Capt. W. Richardson.	
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																		Capt. James Jorgensen	
Schooner Florence, Off Cape Mercy		29.85*	758.2*	38.2	3.4		Calm			0	0	0						Clear	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^{d},) Chief Signal Officer, U. S. A.

BULLETIN

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

TAKEN SIMULTANEOUSLY ON AUGUST 31, 1878.

7:35 A. M. WASHINGTON mean time.

2:12 A. M. HONOLULU mean time.
6:7 A. M. MEXICO mean time.
7:7 A. M. SAN JOSE mean time.
7:25 A. M. TORONTO mean time.
9:2 A. M. PARAMARIBO mean time.
0:6 P. M. LISBON mean time.
0:28 P. M. MADRID mean time.
0:43 P. M. GREENWICH mean time.
0:53 P. M. PARIS mean time.
1:1 P. M. BRUSSELS mean time.
1:4 P. M. UTRECHT mean time.
1:13 P. M. BERNE mean time.
1:26 P. M. CHRISTIANIA mean time.
1:33 P. M. COPENHAGEN mean time.
1:33 P. M. ROME mean time.
1:37 P. M. BERLIN mean time.
1:49 P. M. VIENNA mean time.
1:55 P. M. STOCKHOLM mean time.
1:57 P. M. CAPE OF GOOD HOPE mean time.
2:18 P. M. ATHENS mean time.
2:39 P. M. CONSTANTINOPLE mean time.
2:44 P. M. ST. PETERSBURG mean time.
4:33 P. M. MAURITIUS mean time.
6:36 P. M. CALCUTTA mean time.
8:49 P. M. ZI-KA-WEI mean time.
10:2 P. M. TOKEI, (YEDDO,) mean time.
10:23 P. M. MELBOURNE mean time.

ALGERIAN SERIES.

Furnished by the coöperation of General Teissier, Commandant Supérieur du Génie in Algeria.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Nemours	.....	.....	29.99	761.8	86.9	30.5	55	NNW	.....	.....	3	.....	1	.....	.....	0	0	Very fair.....	Kesxuche.
Algiers	.....	.....	29.92	760.0	90.3	32.4	51	W	.....	.....	3	.....	2	.....	.....	0	0	Fair	Tourilière.
La Calle	.....	.....	29.93	760.2	83.7	28.7	80	ENE	.....	.....	3	.....	3	.....	.....	0	0	Pretty fair .	Foufrede.
Tunis	.....	.....	29.99	761.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Jacques.
Sfax	.....	.....	30.08	764.0	89.6	32.0	.....	NW	.....	.....	1	.....	0	.....	.....	0	0	Clear.....	Gau.
Saida	.....	.....	30.01	762.2	94.6	34.8	63	N	.....	.....	1	.....	2	.....	.....	0	0	Fair	Herbin.
Tebessa	.....	.....	30.00	761.9	93.2	34.0	.....	ESE	.....	.....	2	.....	1	.....	.....	0	0	Very fair.....	Watrin.
Geriville	.....	.....	30.04	762.9	91.8	33.2	30	NNW	.....	.....	8	.....	7	.....	.....	0	0	Very cloudy	Brugniaux.
Laghouat	.....	.....	30.11	764.7	95.4	35.2	16	Calm	.....	.....	0	.....	0	.....	.....	0	0	Clear	Bertrand.
Biskra	.....	.....	30.00	761.9	98.6	37.0	27	SE	.....	.....	1	.....	1	.....	.....	0	0	Very fair.....	Chanvaux.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE—In the originals the distinction between the amount of upper and lower clouds is apparently not made The weather is published as given. The rain-fall is measured at 7 a. m., local time. The elevation of Saida is 899? meters, or 2,919.9? feet; Tebessa, 1.088? m.,or 3,569.4?ft.; Geriville, 1,360? m., or 4,461.7? ft.

AUSTRIAN SERIES.

Furnished by the coöperation of Professor Dr. Julius Hann, Director of the Imperial and Royal Central Meteorological Institute at Vienna.

Agram	29.35	745.6	29.87	758.8	81.0	27.2	59	NE	.....	.....	2	.....	4	.....	.....	Inap.	Inap.	.....	Prof. Ivan Stozir.
Cracow, I. R. Observatory	29.23	742.4	29.98	761.4	68.7	20.4	85	W	.....	.....	1	.....	10	.....	.....	0.012	0.3	.....	Dr. Wierzbiski
Eperies	29.06	738.1	29.89	759.3	78.3	25.7	66	Calm	.....	.....	0	.....	8s	.....	.....	0.295	7.50	.....	Julius Mikolik.
Gratz	28.68	728.5	29.88	759.0	72.9	22.7	77	E	.....	.....	3	.....	7	.....	.....	0.520	13.20	.....	Andreas Rospini.
Hermannstadt	28.52	724.3	29.84	758.0	83.3	28.5	46	NW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. Reissenberg
Kremtmünster	28.55	725.1	29.85	758.1	65.1	18.4	79	NNE	.....	.....	1	.....	10cs	.....	.....	0.197	5.0	.....	Prof. C. Wagner
Lemberg	28.92	734.5	29.85	758.3	76.5	24.7	77	SW	.....	.....	2	.....	3	.....	.....	0	0	.....	Dr. T. Stanecki.
Pola	29.77	756.2	29.88	758.9	82.9	28.3	70	SE	.....	.....	3	.....	5ns	.....	.....	0	0	.....	I.R.Hydrographic Office
Szathmar	29.50	749.2	29.89	759.2	88.2	31.2	59	SW	.....	.....	3	.....	5	.....	.....	0.917	18.2	.....	Johann Tamas, S. J.
Szegedin	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Karl Stancel.
Trieste	29.80	756.9	29.90	759.5	80.4	26.9	71	N	.....	.....	1	.....	9	.....	.....	Inap.	Inap.	Thunder-storm...	P. Busin.
Vienna	29.25	742.9	29.94	760.5	69.3	20.7	78	NE	.....	.....	1	.....	10	.....	.....	0.413	10.5	.....	I. R. Central Met.Obs'y.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
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NOTE—The originals give, occasionally, the weather by the Vienna smybols or in general terms, and it is not always certain that they refer to the moment of observation. The distinction between upper and lower clouds is not made. At Lemberg the rain-fall is measured at 7 p. m., local time; at Trieste at 7 a. m. of the following day; at Szathmar apparently on the following morning. The elevation of Gratz is 343.5 meters, or, 1,126.9 feet, Hermannstadt, 407.8 m., or 1.337.9 ft.; Kremsmünster, 383.6 m., or 1,258.5 ft. At Eperies the observations have been taken at 2:0, instead of 2:8 p. m.; Gratz, at 2:0, instead of 1:45, p. m.; Szathmar at 2:0 instead of 2:15 p. m., local time.

BELGIAN SERIES.

Furnished by the coöperation of J. C. Houzeau, Director of the Royal Observatory at Brussels.

Arlon	28.52	724.4	30.00	762.1	61.7	16.5	69	SSW	.....	.....	2	.....	5	.....	.....	0.689	17.5	.....	Prof. M. Passau.
Brussels	29.54	750.2	29.73	755.2	65.8	18.8	65	SSW	.....	.....	6	7	2	WNW	SW	0.437	11.10	.....	Royal Observatory
Furnes	29.70	754.4	29.72	755.0	63.5	17.5	82	SW	.....	.....	5	.....	10	.....	.....	0.591	15.0	.....	M. E. de Cae.
Maeseyck	29.67	753.7	29.80	756.9	65.7	18.7	73	SSE	.....	.....	6	.....	8	.....	.....	0.291	7.4	.....	M. Pierrot.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

NOTE.—In the originals, the weather is occasionally given by the Vienna symbols. Except for Brussels, the distinction between the upper and lower clouds is not made. The elevation of Arlon is 418 meters, or 1,371.4 feet. At Arlon the observations have been taken at 1:0, instead of 1:6, p. m.; Furnes, 1:0, instead of 0:54, p. m. Maeseyck, 1:0, instead of 1:6 p. m., local time.

BRITISH SERIES.

Furnished by the coöperation of Robert H. Scott, Esq., F. R. S., Secretary of the Meteorological Council London, Alexander Buchan, M. A., F. R. S. E., Secretary of the Scottish Meteorological Society, Edinburgh, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum't'al error and temperature. Inches.	Barometer. Corrected for instrum't'al error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Aberdeen	29.54	750.3	29.64	752.8	58.5	14.7	.....	NW	28	12.5	.....	.....	6	.....	.....	0.010	0.25	D. clouds.....	W. Boswell.
Ardrossan	29.66	753.4	29.67	753.6	62	16.7	.....	WNW	.....	.....	2	.....	7	.....	.....	.....	.....	D. clouds.....	George Carrick.
Armagh, Observatory	.....	.....	29.80	756.9	58.4	14.7	.....	NW	8	3.6	.....	.....	10	.....	.....	.....	.....	Gloomy	S. Call.
Bidston, (Liverpool Obs.)	.....	.....	29.64	752.8	63.0	17.2	.....	WNW	21	9.4	.....	.....	6	.....	.....	.....	.....	D. clouds....	John Hartnup.
Birr Castle, (Parsonstown)	29.67	753 6	29.86	758.4	62.4	16.9	.....	NNW	.....	.....	2	.....	9	.....	.....	.....	.....	D. clouds.....	William Harding.
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Thomas Mackereth.
Bradford, Yorkshire	29.24	742.7	29.64	752.8	65.2	18.4	.....	NW	.....	.....	2	.....	10	.....	.....	0.07	1.8	Overcast.....	J. McLandsborough.
Bridgetown, (Barbados)	29.98	761.5	30.02	762.5	84	28.9	.....	NE	.....	.....	2	.....	3	.....	.....	.....	.....	D. clouds.....	Pvt. G. W. Roberts, A.
Cambridge, Observatory	.....	.....	29.61	752.1	64.0	17.8	.....	SW	.....	.....	2	.....	10	.....	.....	Blank	Blank	D. clouds.....	H. Todd. [H.C.
Cardington	.....	.....	29.65	753.1	64.0	17.8	.....	W	.....	.....	1	.....	10	.....	.....	.....	.....	Overcast	John McLaren.
Chatham, School M. E.	29.52	749.8	29.65	753.1	63.2	17.3	.....	SW	.....	.....	3	.....	9	.....	.....	.....	.....	Overcast.....	Lt. W. G. Morris, R. E.
Dartmoor	28.35	720.1	29.79	756.7	60.0	15.6	.....	NW	.....	.....	5	.....	5	.....	.....	.....	.....	Showery	Alexander Watt.
Donaghadee	29.70	754.4	29.73	755.1	63	17.2	.....	NNW	.....	.....	5	.....	8	.....	.....	.....	.....	D clouds.....	J. Mac Gowan.
Dover	29.66	753.4	29.68	753.9	61	16.1	.....	WSW	.....	.....	5	.....	9	.....	.....	.....	.....	Showery	J. Costello.
Eccles, (near Manchester)	.....	.....	29.61	752.1	65.6	18.7	.....	NW	3.8	1.7	.....	.....	9	.....	.....	.....	.....	D. clouds.....	Thomas Mackereth.
Falmouth, Observatory	29.65	753.1	29.88	758.9	63.0	17.2	.....	NW	.....	.....	4	.....	3	.....	.....	.....	.....	D. clouds.....	The Staff.
Fort Napier, (Natal)	27.64	702.0	29.94	760.5	75.5	24.2	.....	NE	.....	.....	2	.....	0	.....	.....	.....	.....	Blue sky.....	Pvt. G. Salmon, A.H. C.
Free Town, (Sierra Leone)	29.74	755.4	29.97	761.2	84	28.9	.....	SW	.....	.....	0	.....	3	.....	.....	.....	.....	D. clouds.....	
Galway, Queen's College	.....	.....	29.86	758.4	62	16.7	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast.....	Prof. A. H. Curtis.
Gibraltar, (Mediterranean)	29.86	758.4	29.91	759.7	.....	.....	.....	SW	.....	.....	5	.....	2	.....	.....	.....	.....	Blue sky.....	Corpl. Wm. Allen, A.H.C.
Glasgow, Observatory	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. G. Maclean.
Great Yarmouth	29.56	750.8	29.57	751.1	63	17.2	.....	W	.....	.....	3	.....	7	.....	.....	.....	.....	Misty.....	G. T. Watson.
Greenwich, Royal Obs'y	29.59	749.3	29.67	753.6	63.9	17.7	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Raining	The Staff, for G. B. Airy.
Guernsey	29.62	752.3	29.84	757.9	64.5	18.1	.....	WSW	.....	.....	4	.....	5	.....	.....	.....	.....	D. clouds.....	Dr. S. E. Hoskins, F.R.S.
Helston	.....	.....	29.90	759.4	67	19.4	.....	NW	.....	.....	2	.....	2ck	.....	.....	0	0	Fine	M. P. Moyle.
Holyhead	29.70	754.4	29.74	755.4	61	16.1	.....	NW	.....	.....	6	.....	8	.....	.....	.....	.....	D. clouds.....	John Tilston.
Jersey	29.60	751.8	29.88	758.9	64.9	18.3	.....	W	.....	.....	6	.....	6	.....	.....	Blank	Blank	Gloomy.....	J. Fisher.
Kew, Observatory	.....	.....	29.67	753.6	64.5	18.1	.....	WNW	12	5.4	.....	.....	9	.....	.....	.....	.....	Raining	The Staff.
Kingstown	29.76	755.9	29.79	756.7	61	16.1	.....	NW	.....	.....	5	.....	9	.....	.....	.....	.....	Overcast.....	George Mitchell.
Leicester, Museum	.....	.....	29.63	752 6	60.6	15.9	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Drizzling.....	Wm. J Harrison, F.G.S.
Malta, (Mediterranean)	29.91	759.7	29.98	761.5	83.6	28.7	.....	NE	.....	.....	1	.....	0	.....	.....	.....	.....	Blue sky.....	H. J. Becket, A. H. C.
Nairn	29.65	753.1	29.72	754.9	57	13.9	.....	SW	.....	.....	1	.....	8	.....	.....	.....	.....	¾ clouded...	W. D. Penny.
Nassau, (Bahamas)	.....	.....	30.03	762.7	83.0	28.3	.....	SE	.....	.....	1	.....	5	.....	.....	.....	.....	D. clouds.....	C. S. Duncombe.
Nottingham, Observatory	29.42	747.3	29.61	752.1	68.3	20.2	.....	WNW	.....	.....	3	.....	7c;k	.....	W	0.377	9.58	D. clouds.....	E. J. Lowe, F. R. S.
Oscott, St. Mary's College	29.14	740.1	29.65	753.1	60.2	15.7	.....	W	.....	.....	4–5	.....	10	.....	.....	.....	.....	Heavy rain.	Rev. Stephen Whitty.
Oxford, Radcliffe Obs'y	.....	.....	29.68	753.9	65	18.3	.....	W	.....	.....	3	.....	10	.....	.....	.....	.....	Gloomy.....	H.E. Bellamy.
Plymouth	29.75	755.6	29.82	757.4	65.3	18.5	.....	NW	.....	.....	4	.....	10	.....	.....	.....	.....	Overcast	John Merrifield.
Roche's Point	29.84	757.9	29.88	758.9	63	17.2	.....	NNW	.....	.....	5	.....	8	.....	.....	.....	.....	Cloudy	W. Kennedy.
Saint Ann's Head	29.64	752.8	29.80	756.9	62	16.7	.....	NW	.....	.....	2	.....	2	.....	.....	.....	.....	.....	John C. Walker.
Sandwick Manse, (Orkneys)	.....	.....	29.73	755.1	55.8	13.2	.....	N	18	8.0	.....	.....	10	.....	.....	.....	.....	Overcast.....	Rev. C. Clouston, LL. D.
Scutari, Cemetery, (Turkey)	.....	.....	29.91	759.7	84.8	29.3	.....	Calm	.....	.....	0	.....	0	.....	.....	.....	.....	Blue sky.....	Sergt. W. H. Lyne.
Sheffield	29.36	745 7	29.63	752.6	66.0	18.9	.....	NW	.....	.....	1	.....	7	.....	.....	0.25	6.3	Overcast.....	W. F. Cooper.
Silloth Rectory	29.61	752.1	29.64	752.8	70.3	21.3	69	Calm	.....	.....	0	.....	4	.....	.....	0.030	0.76	D. clouds.....	C. Edith Redford.
Stonyhurst, Observatory	29.24	742.7	29.65	753.1	61.0	16.1	.....	SW	.....	.....	2	.....	8	.....	.....	.....	.....	D. clouds.....	Rev. S. J. Perry.
Stornoway, Lews C. (Hebr.)	29.76	755.9	29.79	756.7	56	13.3	.....	N	.....	.....	6	.....	8	.....	.....	.....	.....	.....	John Sutherland.
Stratfield Turgiss	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Rev. C. H. Griffith, F. M S
Thurso	.....	.....	29.73	755.1	56	13.3	.....	N	.....	.....	2	.....	10	.....	.....	.....	.....	Raining.....	John Trotter.
Truro, Royal Institution	.....	.....	29.93	760.2	68	20.0	.....	NW	.....	.....	7	.....	9	.....	.....	.....	.....	Gloomy.....	W. Newcombe.
Valencia, Observatory	.....	.....	30.00	762.0	60.9	16.1	.....	WNW	19	8.5	.....	.....	8	.....	.....	.....	.....	Showery.....	The Staff.
Sub-Series.																			
Hobart Town, (Tasmania)	.....	.....	29.84	757.9	58	14.4	62	NW	.....	.....	3	.....	10kn	.....	.....	0	0	Cloudy.....	Francis Abbott, F.R.A.S.
Leith, Restalrig Park	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Andrew Gibb.
Mauritius, Observatory	29.88	758.9	30.07	763.9	72.7	22.6	68	ENE	7.0	3.1	.....	0	10	.....	.....	0	0	Cloudy.....	C. Meldrum.
Melbourne, Observatory	30.10	764.5	30.19	766.8	50 3	10.2	84	NE	5	2.2	.....	.....	0	.....	.....	0	0	Very fine.....	R. L. J. Ellery.
Monach L't-house, (Hebrides)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. Youngclause.
North Unst, (Shetland Is.)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Robert Burnet.
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NOTE—Generally, the originals do not give the relative humidity, rain-fall or distinction between upper and lower clouds. They give the wind direction to 32 points; the weather by the Beaufort notation; the barometer, for Birr Castle, Cardington, Galway, Oxford, Sandwick, Stornoway, Leith, Monach and North Unst as read off, Freetown reduced to freezing but not to the sea-level; amount of cloudiness for Holyhead, Nairn and Stornoway by the scale 0 to 4. The wind-force is given by the scale 0 to 12 in the official series; 0 to 6 in the sub-series; except in lbs. per square foot for Greenwich and Hobart Town. The rain-fall is measured at Aberdeen at 10 a. m.; Bradford, 9 a. m.; Helston, 9 a. m.; Hobart Town, 7:30 a. m.; Nottingham, 6 p. m.; Mauritius, 9 a. m. local time; Sheffield, 8 a. m. following day. The elevation of Dartmoor is 1,400 feet, or 426.7 meters; Fort Napier, 2,200 ft. or 670.6 m.

MARINE SERIES.

VESSELS.	Sea or swell. Height scale 0—9	Sea or swell. Direction from—		
S. S. Algeria	.....	.....	.....	Capt. W. Watson.
Brig Catherine, N. 41° 45', W. 64° 45'	1	.....	Misty.....	Capt. Alex. Wilson.
Barque Commewyne	.....	.....	.....	Capt. A. Buchan.
S. S. Gordon Castle	.....	.....	.....	Capt. W. Waring.
Barque Margaret Smith, N. 43° 10', W. 13° 5'	3	W	D. clouds.....	Capt. D. W. A. Quaile
S. S. Peruvian	.....	.....	.....	Capt. W. H. Smith, R. N.
Schooner Traveller	.....	.....	.....	Capt. Alex. Simpson. [R.
Barque Virginia	.....	.....	.....	Capt. W. Spratly.
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NOTE.—The originals give the wind-direction to 32 points; the force by Beaufort scale, 0 to 12; the distinction between upper and lower clouds is made as to direction, but not as to amount; the height of sea-disturbance by the scale 0 to 9, except for Steamship Algeria, (Captain Watson,) which gives estimated height of waves in feet; weather by the Beaufort notation. The barometers and thermometers used by these observers have been generally carefully compared and corrected.

Data, as appearing in the International Bulletin of similar date.

Isobars in *black* exhibit atmospheric pressure at sea-level, and are charted from data as reported by the several observers.

Isotherms in *red* exhibit temperature of air, similarly charted.

Broken or dotted lines indicate that the lines so broken are doubtful.

Arrows, when charted, fly with the wind and exhibit wind-direction and force.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

Albert J. Myer

BRIG. GEN., (BVT. ASSG'D,) CHIEF SIGNAL OFFICER, U. S. A.

THE HELIOTYPE PRINTING CO. 220 DEVONSHIRE ST. BOSTON.

COSTA RICA SERIES.

By authority of the MINISTER OF FOREIGN AFFAIRS.

Furnished by the coöperation of Senor Federico Maison, Director of the Central Office of Statistics and Meteorology.

STATIONS.	BAROMETER. Corrected for instrum'tal error and temperature.		BAROMETER. Reduced to sea-level.		TEMPERATURE OF THE AIR.		RELATIVE HUMIDITY.	WIND. Direction.	WIND. Velocity.		WIND. Force.	CLOUDS. Amount.		CLOUDS. Direction.		RAIN-FALL OR MELTED SNOW IN THE PAST 24 HOURS.		WEATHER.	OBSERVER.
	Inches.	Millimeter	Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'per 0—10.	Low'r 0—10.	Upper. From—	Lower. From—	Inches.	Millimeters.		
Punta Arenas																			
San José	26.27	667.2			66.2	19.0	95	SE			1	s;c	3s			0.3	8.		Mr. Ansart. Federico Maison

NOTE.—In the originals, the barometer is given as read off, its instrumental error is not known; the elevation of San José is 1,145 meters, or 3,756.4 feet. The distinction between the upper and lower clouds is not always made. The rain-fall is apparently measured at following midnight, and, in the originals, given in Spanish inches. It is not certain that the remarks in the weather column refer to the moment of observation.

DANISH SERIES.

Furnished by the co-operation of Captain N. Hoffmeyer, Director of the Royal Danish Meteorological Institute at Copenhagen.

Copenhagen	29.64	752.8	29.69	754.0	66.2	19.0	71	WSW			4		6						
Fanöe	29.58	751.4	29.60	751.9	65.7	18.7	82	SW			6		3						
Godthaab, (Greenland)	29.84	758.0	29.89	759.1	41.0	5.0	87	Calm			0		10						
Stykkisholm, (Iceland)	29.98	761.6	30.03	762.7	51.1	10.6	74	Calm			0		8						
Thorshavn, (Faröe)	29.87	758.7	29.91	759.6	54.1	12.3	91	NE			2		10						
Vestervig	29.41	746.9	29.58	751.2	63.3	17.4	93	Calm			0		6						

NOTE.—The originals give the wind-force by the scale 0 to 6; occasionally, weather by the Vienna symbols; no distinction between the amount of upper and lower clouds.

FRENCH SERIES.

Furnished by the co-operation of the Central Meteorological Bureau of France, Prof. E. Mascart, Director, and the respective observers.

Alençon, Normal School	29.38	746.2	29.93	760.2	65.1	18.4	71	NW			1		8	SE	SE	0.402	10.20	Very cloudy	Collignon, Director.
Amiens, Normal School																			Bonvallet, Director.
Avignon, Normal School	29.92	760.0	30.00	762.0	82.0	27.8	39	N			1		0			0	0	Very clear..	M. Giraud, Director.
Bar-sur-Seine	29.40	746.7	29.94	760.4	68.7	20.4	53	SW			1		8kn		W	0	0	Very cloudy	C. Saillard.
Beaumette Obs'y (Angers)																			Albert Cheux.
Beauvais, Normal School	29.61	752.0	29.88	759.0	69.3	20.7	53	WSW			4		8		W	0.270	6.85	Very cloudy	Frere Eugene Marie, Director.
Besançon	29.15	740.4	30.02	762.5	70.7	21.5	65	SSW			2		2		SE	Inap.	Inap.	Slightly cl'dy	Normal School.
Bourg-en-Bresse, N. School																			M. Marlot, Director.
Bourges, Normal School	29.19	741.4	29.88	759.0	69.8	21	91	W			1		5ck		SW	0.04	1.	Cloudy	A. Wagner, Director.
Brest, Naval Observatory	29.66	753.3	29.90	759.4	69.8	21.0	69	NW			3		5		NW	0.069	1.75	Squally	The Staff.
Carcassonne, Normal School	29.66	753.4	30.07	763.6	74.1	23.4	52	W			2		2	W		0	0	Slightly cl'dy	Septembre, Director.
Caen																			Normal School.
Chartres, Normal School	29.25	742.9	29.78	756.5	78.8	26	72	E			4		5		NE	0	0		M. Vergier, Director.
Châlons-sur-Marne, N. Sch'	29.54	750.3	29.85	758.1	68.7	20.4	75	SW			4		5	SW	SW	0.039	1.0	Cloudy	T. Leloup, Director.
Clermont-Fd., Puy de D. Obs	28.69	728.6	29.99	761.8	72.0	22.2	49	W			1				W	0	0		Allnard, Director.
Commercy, Normal School	29.09	738.9	29.96	760.9	64.2	17.9	72	W			3		5kn		W	0.228	5.8	Cloudy	Dr. Coulet, Director.
Commune de Grèasque*																			M. Kina.
Grenoble, Normal School																			M. Ablard, Director.
La Roche-sur-Yon, N. School	29.72	755.0	29.94	760 5	62.1	16.7	73	W			1		10		W	0.354	9.0	Covered	Mouillot, Director.
Le Mans, Normal School	29.64	752.9	29.94	760.5	65.7	18.7	77	W			6		5		W	0.04	1.	Cloudy	Poirrier, Director.
Lons-Le-Saulnier, N. School	29.15	740.4	30.06	763.4	69.8	21	89	SW			4				SW	0	0		Baudry, Director.
Lorient, Naval Observatory	29.87	758.8	29.98	761.4	68.0	20.0	70	W			5		8		W	0.118	3.0	¾ Covered	T. Carré, Director.
Mâcon, Normal School	30.01	762.3	30.05	763.2	68.4	20 2	92	WSW			3		5		WSW	0	0	Cloudy	M. Galzin, Director
Mirecourt, Normal School	28.80	731.4	29.82	757.3	63.1	17.3	85	SW			4		5k		W	0	0	Cloudy	M. Barbier, Director.
Nismes, Normal School	29.87	758.8	30.07	763.8	52.4	28	31	NW			6		0			0	0	Clear	Boyer, Director.
Privas, Normal School	28.97	735.8	29.99	761.7	77.0	25	28	N			1			NW	N	0	0		M. Cantier.
Puy de Dome (Summit)	25.21	640.2			49.8	9.9	76	W			4					0	0	Foggy	Allnard, Director.
Rochefort, Naval Obs'y	30.03	762.8	30.07	763.6	69.8	21.0	70	WSW			4		2		WSW	0	0	¾ covered	M. Giguel, Director.
Rouen, Normal School	29.74	755.4	29.83	757.6	61.7	16.5	93	WSW			1		10		SW	0.354	9.0	Covered	F. Lucard, Director.
Saint Malo (Port)			29.94	760.4	64.6	18.1	78	WSW			4		1		WNW	0	0	Clear	M. H. Hercouet.
Tarbes, Normal School	28.81?	731.8?	29.86?	758.4?	68.0	20	81	WSW			2		10			0	0	Covered	T. Huguet, Director.
Villefranche-sur-Saone, N.S.																			M. Gausserand, Director.
SUB-SERIES.																			
Fort de France, Martinique	29.89	759.1	29.91	759.8	81.1	27.3													
Lyons			30.18	766.6	67.6	19.8	50						4			0.20	5.		L'Abbé Marchès.
Marseilles, Observatory			29.91	759.6	84.7	29.3	23	WNW			2–3		1			0	0		L. Jays.
Mont-Louis	24.88	632.0	30.20	767.0	70.7	21.5	54	NNW	11.2	5.00			2		SW	0	0		The Staff.
Nice			29.91	759.8	78.4	25.8	82	SW			2		2			0	0		M. Cave.
Paris, Montsouris Obs'y	29.60	751.7	29.87	758.7	68.5	20.3	61	WSW			4		6		WSW	0	0		Dr. A. Niepce.
Perpignan			30.04	763.0	78.8	26.0	40	N	18.6	8.33			4		SW	0	0		Marié Davy, Director
Pic du Midi, (Summit,) H. P.					45.0	7.2		SW			1		6						Dr. Tines.
Pic du Midi, (Plantade,) H. P.	22.64	575.0																	M. Baylac.
Saint Maur, (near Paris)	29 72	754.8	29.88	759.0	65.3	18.5	78	SW			2		5		WSW	0.130	3.3	Cloudy	Gen'l de Nansou y
Toulouse, Observatory	29.43	747.4	30.15	765.8	69.8	21.0	58	NNW			2		9			0	0		E. Remon.
Tours	29.78	756.3	29.97	761.3	63.3	17.4	86	SW			2		7		W	0.055	1.4		The Staff.
Versailles			29.89	759.1	68.0	20.0	47	SW			3		7			0.005	0.12	Light showers	C. Marquet.
Zi-Ka-Wei, (near Shanghai)	29.86	758.5	29.89	759.1	75.0	23.9	92	N	6.3	2.8			8k		E	0.012	0.3	Covered	Marc Dechevrens, S. J.

NOTE.—Generally, the originals give the wind-force by the scale 0 to 7; no distinction between upper and lower clouds, and, in the official series, the amount by the scale 0 to 4; the rain-fall as measured at 7, 8 or 9 a. m., except St. Maur 10 p. m., local time; at Clermont-Ferrand, 9 a. m. of the following day; the weather in general terms as published; at Mirecourt the cloud directions are apparently given as toward, instead of from. The elevation of Clermont-Ferrand is 388 meters, or 1,272.9 feet, Commune de Grèasque, 322 m., or 1,056.4 ft.; Puy de Dome (Summit,) 1,467 m.; or 4,812.8 ft.; Tarbes, 308 m., or 1,010 ft.; Mont-Louis, 1,586.40 m., or 5,204.8 ft.; Pic du Midi, (Summit,) 2,877 m., or 9,439.1 ft.; Pic du Midi, (Plantade,) 2,366 m., or 7,762.1 ft. In correcting the Mont-Louis barometric observations for altitude the constant 135 millimeters has been added. For Macon the barometer readings in the first two columns are apparently corrected for temperature and elevation, but *not* for instrumental error. At Clermont-Ferrand the observations have been taken at 0:50, instead of 0:55, p. m., local time. *Bouches-du-Rhône.

GERMAN SERIES.

Furnished by the coöperation of Professor Dr. G. Neumayer, Director of the German Naval Observatory, Hamburg.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0–10	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0–10	Clouds. Direction. Upper From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Bamberg	28.96	735.6	29.78	756.3	71.2	22.3	64	SW			3		5	W		0.39	10.	Thunder-storm...	Prof. Dr. Hoh.
Berlin	29.66	753.4	29.83	757.6	72.5	22.5	48	SW			4		6			0	0		Prof. Arndt.
Breslau	29.40	746.7	29.93	760.1	77.7	25.4	78	SSW			6		6			0	0		Royal University Obs'y
Carlsruhe	29.51	749.5	29.92	760.0	70.2	21.2	56	SW			4		1			1.34	34.		Albert Senz.
Cassel	29.25	742.9	29.85	758.2	70.3	21.3	58	WSW			6		7	W		0	0		Dr. H. Möhl.
Crefeld	29.84	757.9	29.76	756.0	68.5	20.3	60	SW			5		7k;n			0.32	8.		Director Lose.
Emden	29.58	751.4	29.62	752.4	64.9	18.3	78	SW			6		8			0.071	1.8		Prof. Prestel.
Frankfort on the Main	29.55	750.5	29 90	759.5	72.5	21.4		SW			3		4			0.04	1.		Physical Society.
Friedrichshafen	28.58	725.9	29.98	761.4	66.2	19.0	70	WNW			2		8	WSW		0	0		M. Wilhelm.
Hamburg	29.65	753.1	29.72	754.8	66.2	19.0	74	SW			6		10			0	0	Squally	Captain F. Hegemann.
Kiel	29.67	753.7	29.69	754.2	66.4	19.1	68	SW			2		10			0	0		Prof. G. Karsten.
Königsberg, (Prussia)	29.72	754.8	29.80	756.8	68.5	20.3	80	SW			2		4			0.606	15.4	Thunder-storm..	Prof. E. Luther.
Köslin			29.76	755.8	71.4	21.9		SW			4		2			0.146	3.7		H. Müller.
Leipsic, Observatory	29.47	748.5	29.87	758.8	73.4	23.0	46	SW			5		6	SW		0	0		Prof. Bruhns.
Memel, Naval School	29.75	755.7	29.80	756.9	68.0	20.6	85	WSW			1		8ks						Reinbrecht and Skalweit.
Neufahrwasser	29.79	756.7	29.81	757.1	74.1	23.4	58	SW			4		5			0.165	4.2		A. Lothes.
Posen	29.61	752.0	29.88	759.0	75.9	24.4	61	W			6		1			0	0		Dr. Magener.
Strassburg (in Alsace)	29.43	747.6	29.97	761.1	72.1	22.3	47	SW			4		6	SW				Raining	Astronomical Observatory.
Stuttgart	29.00	736.7	29.91	759.6	73.4	23.0	38	W			1		4	W		0	0		Prof. Schoder.
Treves, (Trier)	29.34	745.1	29.85	758.3	65.8	18.8	69	SW			7		6			0.140	3.54		Prof. Flesch.
Weissenburg, (Bavaria)	28.47	723.0	29.92	759.9	68.9	20.5	61	WSW	4.9	2.2			5ck		W	0.004	0.1		Dr. Von Bebber.
Wustrow, Naval School	29.73	755.2	29.77	756.2	68.2	20.1	85	SSW			4		10			0.094	2.4		E. F. Schütz.
German Naval Series.																			

Note—The elevation of Friedrichshafen is 413.3 meters, or 1,355.9 feet; Weissenburg, 431 m., or 1,414.0 ft. In the originals the distinction between the amount of upper and lower clouds is not made; the wind-force at Carlsruhe is given by the scale 0 to 4; Crefeld, by the scale 0 to 12. It is not always certain that the rain-fall has been measured at, and the remarks in the weather column refer to the moment of observation. At Königsberg the observations have been taken at 2:0, instead of 2:5, p. m.; Memel, 2:1, instead of 2:7, p. m.; Posen, 2:0, instead of 1:51, p. m., local time.

GREEK SERIES.

Furnished by the cooperation of Professor Dr. J. F. Julius Schmidt, Director of the Royal Observatory at Athens.

Athens	29.58	751.3	29.95	760.6	96.8	36.0		NE			2.5							Clear.	Dr. J. F. J. Schmidt.

Note—The originals give the barometer reduced to freezing but not to sea-level; the weather as published; occasionally the kind of clouds; they omit the humidity, amount of cloudiness and rain-fall.

INDIAN SERIES.

Furnished by the Coöperation of H. F. Blanford, Meteorological Reporter to the Government of India.

Deesa	29.27	743.4	29.73	755.2	92.0	33.3	65	Calm					6	E	NE	0	0	D. clouds	
Bombay	29.68	753.9	29.72	754.8	83.8	28.8	85	W	12	5.4			10		SSW	0	0	Overcast	
Poona	27.73	704.3	29.72	754.8	79.7	26.5	83	NW					10		NW	0.42	10.7	Overcast	
Lahore	28.99	736.4	29.72	754.8	90.1	32.3	61	Calm	2.3	1.0			0			0	0	Blue sky	
Belgaum	27.25	692.2	29.78	756.5	76.1	24.5	91	W	10	4.5			9		W	0.17	4.3	Showery	
Roorkee	28.81	731.7	29.69	754.2	85.8	29.9	78	Calm	6.0	2.7			3			0.06	1.5		
Agra	29.18	741.2	29.74	755.3	87.7	30.9	73	NE					5		NE	0	0		
Nagpur	28.73	729.7	29.76	755.9	83.6	28.7	75	Calm	4.2	1.9			7			0	0	D. clouds	
Lucknow																			
Allahabad	29.44	747.7	29.74	755.5	85.6	29.8	80	Calm	1.7	0.8			6	NW		0.02	0.5	D. clouds	
Patna	29.60	751.9	29.79	756.6	78.1	25.6	95	SE	1.9	0.8			8	SE	E	2.37	60.2	D. clouds	
Hazaribagh	27.78	705.6	29.79	756.6	78.8	26.0	84	NNW	5.2	2.3			10			0.04	1.0	Thunder-storm..	
Cuttack	29.73	755.2	29.81	757.2	85.4	29.7	70	S	2.5	1.1						0	0	D. clouds	
Calcutta (Alipore)	29.79	756.7	29.81	757.3	84.5	29.2	79	SSW	3.0	1.3			8	S	S	0	0	D clouds	
Goalpara	29.42	747.2	29.81	757.1	79.2	26.2	91	Calm	1.9	0.8			1			0.07	1.8	D. clouds	
Chittagong	29.78	756.3	29.87	758.6	83.4	28.6	85	SW	4.7	2.1			6			0	0	Misty	
Sibsagar	29.48	748.8	29.81	757.3	83.2	28.4	82	NE	1.4	0.6			10	W	W	0.45	11.4	D. clouds	
Jubbulpore	28.42	721.8	29.78	756.5	79.6	26.4	81	SW	4.1	1.8			10			0.04	1.0	Overcast	

Note.—The barometric observations refer to the Calcutta standard, which is believed to read 0.011 inch or 0.28 mm. higher than the Kew standard. In the originals the data are given to an additional decimal and all conversions are published as given; the weather by the Beaufort notation, Vienna symbols, or special symbols; the distinction between the amount of upper and lower clouds is apparently not made. The elevation of Poona is 1,892.4 feet, or 606.3 meters; Nagpur, 1,025 ft., or 312.4m.; Hazaribagh, 2,010 ft., or 612.6 m.; Jubbulpore, 1,361 ft., or 411.8 m.

ITALIAN SERIES.

Furnished by the coöperation of His Excellency the Minister of Public Instruction, and the respective Observers.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Udine	29.48	748.9	29.88	758.9	80.1	26.7	64	E	0.7	0.3	.....	.....	9	.....	.....	0	0	.....	Prof. Giovanni Clodig.
Padua	29.78	756.3	29.88	759.0	82.6	28.1	62	Calm	0	0	.....	.....	9	SW	.....	0	0	.....	Prof. Dott. Lorenzoni
Vicenza	29.70	754.3	29.88	759.0	81.9	27.7	65	NE	2.5	1.1	.....	.....	4	W	.....	0.051	1.3	.....	Conte Alm. Da Schio.
Bergamo	28.60	726.3	29.85	758.3	80.6	27.0	64	SW	.....	.....	2	.....	5	.....	.....	0.024	0.6	.....	Prof. Trionfini Carlo.
Milan	29.36	745.7	29.85	758.3	81.9	27.7	67	E	.....	.....	1	.....	5	NW	.....	0	0	.....	Prof. Schiaparelli.
Moncalieri	28.98	736.1	29.85	758.3	78.8	26.0	62	SE	4.3	1.9	.....	.....	5	NE	.....	0.205	5.2	.....	Prof. P. F. Denza.
Mondovi	28.02	711.7	29.85	758.3	76.5	24.7	69	NW	.....	.....	2	.....	3	SW	.....	0	0	.....	Prof. D. C. Bruno.
Porto Maurizio	29.69	754.2	29.91	759.6	80.4	26.9	73	SSW	.....	.....	2	.....	10	SSW	.....	0	0	.....	Prof. L. Vassallo.
Genoa	29.74	755.5	29.91	759.6	78.4	25.8	78	SE	.....	.....	4	.....	10	SE	.....	0	0	.....	Prof. G. M. Garibaldi.
Parma	29.57	751.0	29.87	758.7	84.9	29.4	48	SE	.....	.....	4	.....	3	.....	.....	0	0	.....	Prof. P. Pigorini.
Florence	29.63	752.7	29.88	758.9	90.1	32.3	36	SW	.....	.....	2	.....	2	.....	.....	0	0	.....	Cav. F. Meucci.
Leghorn	29.80	756.8	29.88	758.9	82.9	28.3	71	WSW	11.2	5.0	.....	.....	3	.....	.....	0	0	.....	Prof. P. Monte.
Pesaro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Luigi Guidi.
Urbino	28.41	721.7	29.90	759.4	89.6	32.0	26	SW	.....	.....	2	.....	0	.....	.....	0	0	.....	Prof. P. Serpieri.
Rome	29.79	756.7	29.96	761.0	94.3	34.6	28	S	13.0	5.8	.....	.....	0	.....	.....	0	0	.....	Prof. P. G. S. Ferrari.
Naples, O. U	29.82	757.3	30.01	762.2	89.8	32.1	40	SW	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. L. Palmieri.
Lecce	29.69	754.1	29.94	760.4	96.8	36.0	31	SSE	4.3	1.9	.....	.....	0	.....	.....	0	0	.....	Prof. C. De Giorgi.
Cagliari	29.70	754.3	29.89	759.1	90.7	32.6	43	SE	.....	.....	2	.....	1	.....	.....	0	0	.....	Prof. A. Pacinotti.
Cosenza	29.11	739.3	29.95	760.7	97.5	36.4	32	SW	1.3	0.6	.....	.....	0	.....	.....	0	0	.....	Prof. F. D. Conti.
Palermo	29.75	755.7	30.00	762.0	84.9	29.4	51	E	5.6	2.5	.....	.....	0	.....	.....	0	0	.....	Prof. G. Cacciatore.
Syracuse	29.89	759.2	29.97	761.2	93.0	33.9	29	S	.....	.....	4	.....	0	.....	.....	0	0	.....	Prof. V. Giuliano.
Sub-Series.																			
Naples, S. R.	29.48	748.7	30.03	762.8	91.8	33.2	44	SW	1.3	0.6	.....	.....	1	SW	.....	0	0	.....	Prof. F. Brioschi.

Note.—The originals give the wind-force by the scale 0 to 4, or the velocity in kilometers per hour; no distinction between the amount of upper and lower clouds. The elevation of Bergamo is 379.6 m., or 1,245.3 ft.; Mondovi, 556 m., or 1,824.2 ft.; Urbino, 451 m., or 1,479.7 ft.

JAPANESE SERIES.

Furnished by the coöperation of the Imperial Meteorological Observatory, and the Imperial University of Tokei, Japan.

Nagasaki	29.71	754.6	29.91	759.7	77.8	25.4	88	NNE	1.7	0.8	.....	.....	2s	.....	.....	0	0	Fair	I. Arai, Director.
Tokei (Yeddo) Observatory	29.90	759.4	29.96	761.0	69.2	20.7	84	NE	11.2	5.0	.....	.....	7s	.....	.....	0	0	Cloudy	Prof. P. V. Veeder.
Tokei (Yeddo) University	29.86	758.4	29.96	760.9	69.2	20.7	90	NE	9.6	4.3	.....	.....	10s	.....	.....	0	0	Cloudy	

Note.—The data are published as given. The rain-fall at the Observatory is measured at 9:30 a. m., local time.

MEXICAN SERIES.

By authority of the Secretary of Public Works.

Furnished by the coöperation of Senor Mariano Bárcena, Director of the Central Meteorological Observatory in the city of Mexico, and the respective Observers.

Cuernavaca	.....	.....	.....	.....	64.3	17.9	80	E	0.9	0.4	.....	0	2k	.....	.....	0.45	11.2	Clear.	L. Castillo, A. E.
Guadalajara	25.08	637.5	30.05	763.4	58.1	14.5	89	Calm	0	0	.....	8cs	0	NE	.....	0.53	13.4	Cloudy	Prof. L. Perez.
Guanajuato	23.72	602.5	29.92	759.9	63.1	17.3	76	W	.....	.....	.....	8	0	.....	.....	0.42	10.7	Cloudy	Prof. V. Fernandez
Leon	24.45	621.4	30.01	762.1	62.4	16.9	88	SW	0.9	0.4	.....	3c	5k	E	.....	0.26	6.6	Cloudy	Prof. M. Leal.
Mexico	23.12	587.2	30.10	764.5	57.2	14.0	89	Calm	0	0	.....	0	10n	.....	.....	1.03	26.1	Raining	Central Observatory.
Pabellon, (Aguascalts)	.....	.....	.....	.....	61.3	16.3	92	W	0.9	0.4	.....	2c	3ks	.....	.....	Inap.	Inap.	½ cloudy	M. V. de Leon, M. E
Puebla	23.38	593.8	30.03	762.8	55.9	13.3	88	NE	1.6	0.7	.....	3ck	5k	.....	.....	0.64	16.2	Cloudy	Prof. B. Gonzalez.
Tlacotalpam	29.96	760.9	29.97	761.2	78.8	26.0	87	S	0.9	0.4	.....	2cs	5n	.....	W	0	0	Cloudy	Prof. F. R. Bayly.
San Luis Potosi	24.25	615.1	30.29	766.7	62.0	16.7	57	SE	0.9	0.4	.....	0	10	.....	SE	0.14	3.5	Covered.	G. Barroeta, M. D.
Vera-Cruz	29.96	761.0	29.99	761.7	79.7	26.5	84	NW	2.2	1.0	.....	2ck	3sk	.....	.....	Inap.	Inap.	½ cloudy	Prof. J. Rossell.
Zacatecas	.....	.....	.....	.....	57.2	14.0	90	E	1.8	0.8	.....	0	10n	.....	E	.....	.....	Raining	J. A. Bonilla, M. E.
Puebla, (Catholic Institute)	23.32	592.4	30.07	763.8	54.4	12.5	84	SE	2.2	1.0	.....	2	2	S	.....	0.99	25.0	½ cloudy	Prof. P. Spina, [M.M.D. D
Durango	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. V. de Leon, C. E.
Colima	28.39	721.0	30.02	762.4	77.9	25.5	90	SE	0.9	0.4	.....	0	9	.....	E	0.04	1.0	Cloudy.	R. Banda, C. E.
San Juan E. Michapam	29.74	755.3	29.88	759.0	77.9	25.5	.....	Calm	0	0	.....	0	0	.....	.....	0	0	Foggy	Antonio Guerra y Guerra.

Note.—The elevation of Cuernavaca, 1,510 m., or 4,953.9 ft.; Guadalajara, 1,560 m., or 5,117.9 ft.; Guanajuato, 2,010 m., or 6,594.2 ft.; Leon, 1,774 m., or 5,820 ft.; Mexico, 2,282.5 m., or 7,488.3 ft.; Pabellon, 1,924.4 m.; or 6,313.3 ft.; Puebla, 2,155 m., or 7,069.9 ft.; San Luis Potosi, 1,893 m., or 5,210.4 ft.; Zacatecas, 2,496 m., or 8,188.6 ft.; Puebla, Catholic Institute, 2,201.9 m., or 7,223.8 ft.; Durango, 1,870 m., or 6,135 ft.; Colima, 502.1 (?) m., or 1,647.3 (?) ft. The rain-fall is generally measured at 6, a. m., local time. The instrumental errors of the barometers are not known. The data are published as given. In the originals the barometer at San Juan E. Michapam is reduced to freezing but not to sea-level.

NETHERLANDS' SERIES.

Furnished by the coöperation of Professor Buys Ballot, Director of the Royal Meteorological Institute of the Netherlands at Utrecht.

Flushing	29.69	754.0	29.69	754.0	65.5	18.6	.....	SW	.....	.....	5	.....	.....	.....	.....	0.220	5.6	.....	
Groningen	29.60	751.8	29.65	753.2	65.3	18.5	.....	S	.....	.....	4	.....	.....	.....	.....	0.272	6.9	.....	
Helder	29.58	751.4	29.58	751.4	65.1	18.4	.....	SSW	.....	.....	4	.....	.....	.....	.....	0.457	11.6	.....	
Hellevoetsluis	29.71	754.5	29.71	754.5	59.2	15.1	98	SSW	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	
Utrecht	29.64	752.9	29.69	754.1	62.6	17.0	86	SSW	.....	.....	4	.....	8	.....	.....	0.520	13.2	Very cloudy	H. v d Brink.

Note.—The originals give the wind-pressure, except at Hellevoetsluis, in kilograms per square meter, at Hellevoetsluis force by scale 0 to 12; they do not give the humidity; for Utrecht, they give the weather as published, from which the amount of cloudiness is taken by the scale 0 to 4, without distinguishing between upper and lower clouds.

NORWEGIAN SERIES.

Furnished by the coöperation of Professor H. Mohn, Director of the Royal Norwegian Meteorological Institute at Christiania.

STATIONS.	Barometer. Corrected for instrumental error and temperature. Inches.	Barometer. Corrected for instrumental error and temperature. Millimeters.	Barometer. Reduced sea-level. Inches.	Barometer. Reduced sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather	Observer
Bergen	29.54	750.4	29.60	751.8	70.5	21.4	50	NNW	5.1	2.3	.....	.....	3	.....	.....	0	0	.....	
Brône	29.67	753.5	29.71	754.5	71.6	22.0	58	Calm	0	0	.....	.....	2	.....	.....	0	0	.....	
Christiania	29.52	749.7	29.66	753.3	63.9	17.7	81	ENE	4	2	.....	.....	10	.....	.....	0.409	10.4	.....	
Tromsö	29.78	756.5	29.83	757.6	55.8	13.2	73	N	9	4	.....	.....	0	.....	.....	0	0	.....	

NOTE.—The originals give the amount of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols. The cloudiness and weather at Bergen refer to 2h., p. m., local time, instead of 1h., 4 min.

PORTUGUESE SERIES.

Furnished by the coöperation of J. C. de Brito Capello, Director of the Meteorological Observatory of the Infante Don Luiz at Lisbon.

Angra, (Azores)	30.06	763.5	30.24	768.2	72.7	22.6	68	SSW	3.1	1.4	.....	.....	3	.....	.....	0	0	.....	Dr. J. A. Sampaio.
Campo Major	29.95	757.8	30.03	762.8	79.9	26.6	27	NNW	4.9	2.2	.....	.....	7	W	.....	0	0	.....	Dr. A. M. R. dos Santos.
Funchal, (Madeira)	30.04	762.9	30.12	765.1	77.0	25.0	49	N	11.2	5.0	.....	.....	9	.....	.....	0	0	.....	Capt. D. A. de Cunha.
Lisbon, Observatory	29.74	755.3	30.09	764.2	72.3	22.4	41	NNE	22.4	10.0	.....	.....	9	SW	.....	0	0	.....	The Staff.
Ponta Delgada, (Azores)	30.22	767.5	30.29	769.3	74.1	23.4	56	SE	4.9	2.2	.....	.....	6	.....	.....	0	0	.....	

NOTE.—The originals give the wind-velocity in kilometers for the hour preceding the observation; occasionally, the weather by the Vienna symbols; the amount of cloudiness without distinguishing between upper and lower clouds. The rain-fall at Lisbon is measured at noon, instead of 0 h. 6 m., p. m.

Naval Series. Vessels.																Sea or swell. Height scale 0–9	Sea or swell. Direction from—		
Bartholomew Dias	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. A. T. Pinha, Com'd.
D. Fernando, N. 34° 15′, W. 19° 45′	.....	.....	30.22	767.6	76.1	24.5	.....	NE	.....	.....	4	.....	5	.....	NNE	4	.....	D. Clouds ...	A. M. de Sande, Com'd.
India	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. D. Pedroso, Com'd.
Mindello	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. F. R. R. Bastos, Com'd't.
Quanza, S. 15° 13′, E. 12° 02′	.....	.....	30.05	763.3	69.8	21.0	.....	W	.....	.....	1	.....	3	.....	W	1	.....	D. clouds....	A. J. de Mattos, Com'd't.
Rio Douro	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. T. d'Oliveria, Com'd't.
Sado, N. 14° 53′, W. 23° 34′	.....	.....	30.00	762.0	83.7	28.7	.....	SE	.....	.....	2	.....	7	.....	.....	1	SE	D. Clouds ...	L. Ribeiro de Costa, Com'd't.
Sá da Bandeira, S. 8° 14′, E. 13° 07′	.....	.....	29.98	761.4	75.2	24.0	.....	WSW	.....	.....	3	.....	7	.....	WSW	1	.....	D. clouds....	F. Texeira da Silva, Com'd't.
Tejo	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. Ivos do Rio.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals, except for S. S. Tejo, give the barometer reduced to freezing but not to sea-level; the distinction between upper and lower clouds is made as to direction, but not as to amount; the weather by the Beaufort notation; they do not give the humidity.

RUSSIAN SERIES.

Furnished by the coöperation of Professor H. Wild, Director of the Imperial Central Physical Observatory of Russia, at St. Petersburg.

Warsaw	29.49	749.0	29.89	759.3	72.9	22.7	61	WSW	4	2	.....	.....	7ks	.....	.....	.....	.....	.....	Astronomical Obs.
Wilna	29.45	747.9	29.85	758.2	67.1	19.5	77	S	9	4	.....	.....	10	.....	.....	.....	.....	Heavy clouds ...	Astronomical Obs.
Dorpat	29.65	753.0	29.88	758.9	65.3	18.5	82	ESE	7	3	.....	.....	10n	.....	.....	.....	.....	Raining	Prof. Dr. Weihrauch.
St. Petersburg	29.94	760.4	29.95	760.8	65.1	18.4	75	S	11	5	.....	.....	9n;ks	.....	.....	.....	.....	.....	Central Physical Obs.
Kuopio	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Ch. Forsten.
Kieff	29.34	745.3	29.95	760.7	72.5	22.5	58	SSE	2	1	.....	.....	10ck	.....	.....	.....	.....	Solar corona	Physical Cabinet.
Nikolaiev	29.37	761.1	30.04	762.9	77.7	25.4	51	NW	4	2	.....	.....	8cs	.....	.....	.....	.....	.....	Kurdakof.
Kertch	30.04	762.9	30.06	763.4	73.2	22.9	62	NNW	9	4	.....	.....	1	.....	.....	.....	.....	Light clouds	Lagorio.
Moscow	29.57	751.1	30.11	764.8	63.5	17.5	73	S	4	2	.....	.....	8ks	.....	.....	.....	.....	.....	Meteorological Obs.
Lugan	29.71	754.5	29.90	759.5	72.7	22.6	57	NNW	9	4	.....	.....	5	.....	.....	.....	.....	.....	Meteorological Obs.
Archangel	30.07	763.6	30.08	764.1	71.6	22.0	59	Calm	0	0	.....	.....	2cs	.....	.....	.....	.....	.....	Ogorodnikof.
Tiflis	28.56	725.4	29.92	759.9	75.7	24.3	40	N	9	4	.....	.....	4cs	.....	.....	.....	.....	.....	Physical Observatory
Astrakhan	30.01	762.2	29.93	760.1	64.4?	18.0?	81	ENE	2	1	.....	.....	10s;n	.....	.....	Blank	Blank	.....	Sebastianof.
Krotkowo*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cand. Fatjanow.
Kasan	29.84	757.9	30.10	764.5	71.6	22.0	44	Calm	0	0	.....	.....	0	.....	.....	.....	.....	.....	Physical Cabinet.
Orenburg	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....[ks	.....	.....	.....	.....	.....	Tschernischef.
Ekaterinburg	29.03	737.3	29.95	760.8	63.5	17.5	47	NNW	13	6	.....	.....	3c;cs;	.....	.....	.....	.....	.....	Meteorological Obs.
Nukuss	29.64	752.8	29.86	758.5	73.2	22.9	44	NNE	11	5	.....	.....	6ks	.....	.....	.....	.....	.....	
Tashkend	28.28	718.2	29.91	759.7	75.7	24.3	55	NW	2	1	.....	.....	9	.....	.....	.....	.....	Heavy clouds...	Michelson.
Barnaul	29.20	741.7	29.72	754.8	56.1	13.4	63	SW	0	0	.....	.....	8	.....	.....	.....	.....	.....	Meteorological Obs.
Yeniseisk	29.37	745.9	29.65	753.0	60.1	15.6	89	S	2	1	.....	.....	10	.....	.....	.....	.....	.....	Marks.
Irkutsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Usolzef.
Peking, (China)	29.74	755.4	29.88	759.0	74.5	23.6	94	Calm	0	0	.....	.....	10m	.....	.....	.....	.....	Thunder-storm...	Physical Observatory.
Nertchinsk	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Meteorological Obs.
Vladivostock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Nikolaievsk, on the Amoor	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

NOTE.—The originals give the amount and generally the kind of cloudiness without distinguishing between upper and lower clouds; occasionally, the weather by the Vienna symbols; they omit the rain-fall. The elevation of Tiflis is 409 meters, or 1,341.8 feet; Tashkend, 494.2? m., or 1,621.3? ft.; Irkutsk, 392 m., or 1,286 ft.; Nertchinsk, 592.0? m., or 1,942.2? ft. * N. 53° 47′, E 48° 34′.

SPANISH SERIES.

Furnished by the coöperation of Antonio Aguilar, Director of the Royal Observatory at Madrid, and the respective Observers.

Barcelona, Met. Obs'y	29.89	759.2	29.99	761.7	81.3	27.4	55	E	0.9	0.39	.....	.....	4c	.....	.....	0	0	.....	Antonio Rave, Directo.
Bilbao, Met. Obs'y	30.09	764.2	30.14	765.6	73.6	23.1	65	NW	2.3	1.02	.....	3	3	S	.....	0.031	0.8	Cloudy.....	Prof. Manuel de Naveran
Burgos, Met. Obs'y	27.18	690.3	.....	.....	68.5	20.3	61	NE	5.3	2.35	.....	.....	6	.....	.....	0	0	Clouds.....	Domingo Martin y Perez
Madrid, Royal Observatory	27.84	707.1	30.02	762.6	85.8	29.9	24	NW	3.0	1.33	.....	4	0	W	.....	0	0	Light clouds	The Staff.
Murcia, Met. Obs'y	29.77	756.2	29.91	759.7	100.8	38.2	40	E	4.0	1.78	.....	2	7	WNW	.....	0	0	Cloudy.....	Olayo Diaz, Director.
Santiago, Met. Obs'y.	29.22	742.2	30.10	764.5	67.5	19.7	58	NNE	9.3	4.17	.....	.....	8	.....	.....	0	0	Cloudy.....	R. Gil Villanueva, Dir.
SUB-SERIES.																			
Havana, Cuba, W. I.	29.97	761.2	30.03	762.8	79.0	26.1	87	ENE	3.4	1.5	.....	0	0	.....	.....	0.059	1.5	Clear	Benito Vines, S. J
Manilla, Philippine Islands,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Federico Faura, S. J.
San Fernando, Naval Obs'y	29.91	759.7	30.01	762.2	75.0	23.9	63	W	16.8	7.5	.....	0	2	.....	NW	0	0	.....	Capt. C. Pujazon, R. N., Dir.
San Juan de Porto Rico, W. I.	29.92	760.0	30.01	762.3	82.0	27.8	91	SE	3.9	1.75	.....	2c	2k	SE	SE	0.384	9.75	Clear.	Leonardo de Tejeda, Ch'f Eng'r.

NOTE.—The originals give the weather in general terms, as published; wind-velocity, except for Sub-Series, in kilometers per hour; rain-fall for San Juan as measured at 4 p. m., instead of 8:19 a. m., local time, and for San Fernando at midnight following; at Barcelona, Bilbao, Burgos, Murcia and Santiago, the barometer educed to freezing but not to sea-level. The elevation of Burgos is 860 meters, or 2,821.4 feet; Madrid 655.5 m., or 2,150.5 ft.

SWEDISH SERIES.

Furnished by the cooperation of Professor R. Rubenson, Director of the Royal Swedish Meteorological Institute, at Stockholm, and of Dr. H. H. Hildebrandsson, Director of the Meteorological Observatory of the Upsala University.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Haparanda	29.89	759.3	29.93	760.3	66.6	19.2	.....	SE	.....	.....	2	.....	6	.....	.....	0	0	.....	
Umea	29.78	756.5	29.84	757.8	60.8	16.0	91	ESE	.....	.....	2	.....	10	.....	.....	0.205	5.2	.....	
Hernosand	29.71	754.5	29.84	757.8	58.6	14.8	97	NE	.....	.....	2	.....	10	.....	.....	0.051	1.3	.....	
Stockholm	29.50	749.3	29.68	753.8	60.1	15.6	87	ESE	.....	.....	4	.....	10	.....	.....	0.094	2.4	.....	
Wisby	29.69	751.7	29.65	753.2	66.6	19.2	75	SW	.....	.....	6	.....	5	.....	.....	0.409	10.4	Raining	
Sub-Series.																			
Upsala	29.61	752.2	29.69	754.1	60.3	15.7	93	ENE	7.8	3.5	.....	.....	10	.....	SE	0.253	6.42	Raining	Nils Ekholm.

Note.—The origin is give the wind-force by the scale 0 to 6, except Upsala; occasionally, the weather by the Vienna symbols, or in general terms; no distinction between the amount of upper and lower clouds. The rain-fall is measured at 8 a. m., local time, and apparently on the following day.

SWISS SERIES.

Furnished by the cooperation of Professor R. Wolf, Director of the Observatory at Zurich, and of Professor E. Plantamour, Director of the Observatory at Geneva.

Geneva	28.61	726.8	29.99	761.8	71.6	22.0	48	SW	.....	.....	1	.....	3	.....	.....	0.185	4.7	Cloudy	The Observatory.
Zurich	28.41	721.6	30.01	762.2	65.3	18.5	77	W	.....	.....	2	.....	5	.....	.....	0	0	Bright	The Observatory.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—At Geneva the corresponding departures from the normal values are: Barometer, —0.7 mm.; Thermometer, +1.7 cent.; Relative Humidity, —11 per cent.

Note.—The rain-fall is measured at Zurich at 7 a. m. on the following day. The originals give the barometer reduced to freezing but not to sea-level; the wind-force by the scale 0 to 4 for Zurich; the amount of cloudiness without distinguishing between upper and lower clouds; the weather in general terms. The elevation of Geneva is 408 meters, or 1,339 feet, and that of Zurich 470 m., or 1,542 feet.

TURKISH SERIES

Furnished by the coöperation of A. Coumbary, Effendi, Director of the Central Observatory at Constantinople, and of Professor C. V. A. Van Dyck, Superintendent of the Lee Observatory at Beirut.

Constantinople	.....	.....	29.97	761.3	88.0	31.1	40	SE	6	2.5	.....	.....	0	.....	.....	0	0	.....	The Observatory.
Valona	.....	.....	30.10	764.5	88.2	31.2	.....	W	.....	.....	1	.....	0	.....	.....	0	0	.....	A. Bertrand.
Sub-Series.																			
Beirut, (Syria,) Lee Obs'y	29.69	754.1	29.81	757.1	87.4	30.8	63	N	.....	.....	1	.....	0	.....	.....	0	0	Blue sky	Prof. C. V. A. Van Dyck.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals give the velocity at Constantinople in meters per second; at Valona the wind-force by the scale 0 to 7; at Beirut by the scale 0 to 12; the weather in general terms as published, except Beirut by the Beaufort notation: no distinction between upper and lower clouds, and at Valona the amount by the scale 0 to 4. Valona does not state that the barometer is reduced to sea-level, but it is so assumed.

CANADIAN SERIES.

Furnished by the cooperation of Professor G. T. Kingston, Director of the Magnetic Observatory at Toronto, and Superintendent of the Meteorological Office of the Dominion of Canada, and the respective Observers. Those marked with a star (*) are also telegraphed daily to the Office of the Chief Signal Officer, U. S. Army.

Bathurst, N. B	30.02	762.5	30.08	764.0	56.1	13.4	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	Hon. J. Ferguson.
Brockville, Ontario	29.78	756.4	30.07	763.8	74	23.3	.....	SE	1	0.4	.....	0	2s	.....	SW	0	0	Clear	W. R. Bigg.
*Chatham, N B	30.07	763.8	30.13	765.3	57	13.9	87	Calm	0	0	.....	8c	0	.....	.....	0	0	Fair	G. A. Blair.
Charlottetown, P. E. Island	30.12	765.0	30.16	766.1	61	16.1	79	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	H. J. Cundall, C. E.
Cornwall, Ontario	29.89	759.2	30.07	763.8	65.5	18.6	94	S	.....	.....	1	0	0	.....	.....	0	0	Clear	James Smith, M. A.
Dalhousie, N. B	29.95	760.7	30.11	764.8	52	11.1	100	W	.....	.....	1	.....	.....	.....	.....	0	0	Misty	H. A. Johnson.
Esquimault, B. C	30.09	764.3	30.13	765.3	49.3	9.6	100	Calm	.....	.....	.....	0	0	.....	.....	0	0	Clear	W. H. Bevis.
*Father Point, Quebec	30.00	762.0	30.02	762.5	57	13.9	82	SW	23	10.3	.....	Haze	Haze	Calm	Calm	0	0	Hazy.	J. McWilliams.
Fredericton, N. B	30.13	765.3	30.20	767.1	58.0	14.4	85	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	Prof. Harrison.
*Fort Garry Manitoba	29.03	737.3	29.83	757.7	59	15.0	97	NE	2	0.9	.....	0	Haze	.....	.....	0	0	Clear	James Stewart.
Granton, Ontario	28.91	734.3	29.97	761.2	67	19.4	100	SE	.....	.....	1	.....	10n	.....	.....	0	0	Overcast	James Grant.
*Halifax, N. S	30.03	762.7	30.16	766.1	61	16.1	90	NW	3	1.3	.....	2c	0	.....	.....	0	0	Fair	F. Allison, M. A.
Hamilton, Ontario	29.70	754.4	30.06	763.5	65.7	18.7	91	SE	.....	.....	1	4c	0	SW	.....	0	0	Hazy	Geo. Dickson, M. A.
Heart's Content, N. F	29.93	760.2	29.96	761.0	53	11.7	80	NW	.....	.....	3	.....	10	.....	.....	0	0	Cloudy	E. Weedon.
*Kingston, Ontario	29.77	756.1	30.10	764.5	72	22.2	76	S	5	2.2	.....	2c	Sm'e	Calm	.....	0	0	Clear	S. Woods, M. A.
Little Glace Bay, N. S	30.12	765 0	30.16	766.1	61.0	16.1	.....	NW	10	4.5	.....	3c	0	SW	.....	0	0	Fair	C. H. Rigby.
*Montreal, Quebec	29.92	760.0	30.11	764.8	67	19.4	84	SW	4	1.8	.....	0	0	.....	.....	0	0	Clear	C. H. McLeod, C. E.
*Parry Sound, Ontario	29.35	745.5	30.02	762.5	67	19.4	86	E	8	3.6	.....	2cs	0	W	.....	0	0	Fair	Rev. R. Mosley.
Peterboro, Ontario	29.33	745.0	30.06	763.5	64.7	18.2	89	Calm	.....	.....	0	0	0	.....	.....	0	0	Fine	J. F. Jeffers, B. A.
Port Dover, Ontario	29.35	745.5	30.01	762.2	73	22.8	85	Calm	0	0	.....	10ck	0	NW	.....	0	0	Fair	H. Morgan.
Port Hastings, N. S	30.11	764.8	30.16	766.1	67.7	19.8	.....	Calm	0	0	.....	.....	.....	.....	.....	0	0	Fine	Peter Grant.
Port Stanley, Ontario	29.38	746.2	30.09	762.0	70	21.1	93	E	8	3.6	.....	.....	10ks	.....	SE	0	0	Cloudy	M. Payne.
*Quebec, Quebec	29.83	757.7	30.14	765.5	61	16.1	88	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear.	Capt. Ashe, R. N
*Rockliffe, Ontario	29.61	752.1	30.06	763.5	58	14.4	97	E	3	1.3	.....	.....	Fog	.....	.....	0	0	Foggy	W. H. McIntyre.
St. Andrews, N. B	30.13	765.3	30.18	766.6	58	14.4	61	NE	.....	.....	.....	0	0	.....	.....	0	0	Clear	Dr. Gove.
St. John, N. B	30.03	762.7	30.19	766.8	61	16.1	88	S	4	1.8	.....	1c	0	.....	.....	0	0	Clear	G. Murdock, C. E.
*Saugeen, Ontario	29.29	744.0	29.98	761.5	67	19.4	80	SE	10	4.5	.....	0	Sm'e	.....	.....	0	0	Clear	K. Stewart.
Stayner, Ontario	29.23	742.4	29.97	761.2	73	22.8	80	SE	4	1.8	.....	5c	Sm'e	NW	.....	0	0	Smoky	R. J. Cole.
Stratford, Ontario	28.77	730.7	30.00	762.0	66.5	19.2	95	SE	5	2.2	.....	2cs	2s	.....	.....	0	0	Fair	C. J. MacGregor, M. A.
*Sydney, C. B	30.13	765.3	30.16	766.1	62	16.7	72	NW	4	1.8	.....	2c	0	.....	.....	0	0	Clear.	T. C. Hill.
*Toronto, Ontario	29.67	753.6	30.04	763.0	71	21.7	90	E	2	0.9	.....	5cs	0	SW	.....	0	0	Fair	Magnetic Observatory.
Windsor, N. S	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. John E. Oram.
Sub-Series.																			
St. Johns, Newfoundland	.....	.....	.....	.....	54.0	12.2	87	NE	.....	.....	.....	5c	5s	.....	.....	0.18	4.6	Cloudy	John Delany.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Note.—The originals for Brockville, Charlottetown, Port Dover, Port Stanley, St. Andrews, Stayner and those telegraphed, give the amount of cloudiness by the scale 0 to 4; at St. Andrews, the velocity of the wind is estimated. The elevation of Granton is 1,015 feet, or 309.4 meters; Stratford, 1,182 ft., or 360.3 m.

UNITED STATES SERIES.

By authority of the SECRETARY OF WAR,

Furnished by the coöperation of Bvt. Brig. Gen. Albert J. Myer, Chief Signal Officer, U. S. Army.

STATIONS.	Barometer. Corrected for instrum'tal error and temperature. Inches.	Barometer. Corrected for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0–10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Albany, New York	29.93	760.2	30.16	766.1	66	18.9	89	Calm	0	0	.....	1c	Sm'e	W	.....	0	0	Smoky	
Alpena, Michigan	29.32	744.7	29.95	760.7	61	16.1	88	Calm	0	0	.....	5cs	Haze	W	.....	0	0	Fair	
Atlantic City, New Jersey	30.15	765.8	30.17	766.3	74	23.3	85	E	15	6.7	.....	10cs	0	Calm	.....	0	0	Cloudy	
Augusta, Georgia	29.88	758.9	30.06	763.5	75	23.9	95	Calm	0	0	.....	.....	10s	.....	SW	0.31	7.9	Cloudy	
Baltimore, Maryland	30.10	764.5	30.15	765.8	71	21.7	85	SE	5	2.2	.....	.....	10s	.....	SE	0	0	Cloudy	
Barnegat, New Jersey	30.17	766.3	30.19	766.8	74	23.3	76	SE	10	4.5	.....	8ck	0	NW	.....	0	0	Fair	
Bismarck, Dakota	28.09	713.5	29.94	760.5	58	14.4	88	E	1	0.4	.....	Haze	Haze	.....	.....	0	0	Hazy	
Boerne, Texas	28.47	723.1	.....	.....	67	19.4	64	W	2	0.9	.....	2ck	0	Calm	.....	0	0	Clear	
Boise City, Idaho	27.19	690.6	30.15	765.8	57	13.9	75	SE	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Boston, Massachusetts	30.07	763.8	30.22	767.6	76	24.4	66	Calm	0	0	.....	Haze	Haze	SW	Calm	0	0	Hazy	
Brackettville, Texas	28.87	733.3	29.86	758.4	75	23.9	77	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Breckenridge, Minnesota	28.84	732.5	29.81	757.2	56	13.3	94	W	8	3.6	.....	0	0	.....	.....	0	0	Clear	
Brownsville, Texas	29.92	760.0	29.98	761.5	75	23.9	95	Calm	0	0	.....	0	0	.....	.....	0.04	1.0	Clear	
Buffalo, New York	29.34	745.2	30.01	762.2	72	22.2	71	E	5	2.2	.....	2c	Sm'e	SW	Calm	0	0	Fair	
Burkes, Arizona	.....	.....	.....	.....	79	26.1	39	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Burlington, Vermont	29.93	760.2	30.18	766.6	67	19.4	79	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Cairo, Illinois	29.50	749.3	29.87	758.7	70	21.1	90	SW	6	2.7	.....	.....	Fog	.....	Calm	0.09	2.3	Foggy	
Camp Apache, Arizona	.....	.....	.....	.....	67	19.4	84	Calm	.....	.....	0	.....	10s	.....	Calm	Blank	Blank	Cloudy	
Camp Grant, Arizona	25.22	640.6	30.02	762.5	68	20.0	70	Calm	.....	.....	0	.....	10s	.....	Calm	0.02	0.5	Cloudy	
Camp Verde, Arizona	26.78	680.2	30.27	768.8	74	23.3	72	W	.....	.....	1	5c	0	Calm	.....	0	0	Fair	
Campo, California	27.37	695.2	29.94	760.5	59	15.0	76	Calm	.....	.....	0	0	0	.....	.....	0	0	Clear	
Cape Hatteras, N. Carolina	30.11	764.8	30.12	765.0	79	26.1	91	SE	1	0.4	.....	8k	0	W	.....	0.41	10.4	Fair	
Cape Henry, Virginia	30.08	764.0	30.11	764.8	76	24.4	91	E	11	4.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cape Lookout, N. Carolina	30.10	764.5	30.11	764.8	82	27.8	91	S	6	2.7	.....	5ck	0	W	.....	0.04	1.0	Fair	
Cape May, New Jersey	30.13	765.3	30.16	766.1	74	23.3	81	SE	10	4.5	.....	.....	10s	.....	W	0	0	Cloudy	
Castroville, Texas	29.22	742.2	29.91	759.7	69	20.6	80	W	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Charleston, South Carolina	30.04	763.0	30.11	764.8	85	29.4	83	S	9	4.0	.....	2c	5ks	N	S	0	0	Fair	
Cheyenne, Wyoming	24.13	612.9	30.07	764.8	52	11.1	86	NW	4	1.8	.....	2ck	2ks	NW	NW	0.02	0.5	Fair	
Chicago, Illinois	29.21	741.9	29.87	758.7	71	21.7	90	NE	8	3.6	.....	.....	10s	.....	Calm	0	0	Cloudy	
Cincinnati, Ohio	29.23	742.4	29.85	758.2	73	22.8	92	SE	4	1.8	.....	.....	10n	.....	S	0.51	13.0	Light rain	
Cleveland, Ohio	29.25	742.9	29.94	760.5	71	21.7	71	SE	7	3.1	.....	.....	10s	.....	Calm	0	0	Threatening	
Coleman City, Texas	28.20	716.3	29.84	757.9	60	15.6	71	Calm	0	0	.....	1c	0	Calm	.....	0	0	Clear	
Columbus, Ohio	29.07	738.4	29.87	758.7	69	20.6	95	E	8	3.6	.....	.....	10n	.....	E	0.34	8.6	Light rain	
Concho, Texas	28.10	713.7	29.75	755.6	58	14.4	64	NW	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Corsicana, Texas	29.53	750.0	29.99	761.7	69	20.6	90	NE	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Davenport, Iowa	29.33	745.0	29.95	760.7	65	18.3	78	Calm	0	0	.....	Haze	Fog	Calm	Calm	0	0	Fair	
Denison, Texas	29.19	741.4	29.96	761 0	67	19.4	84	NE	1	0.4	.....	0	Haze	.....	Calm	0	0	Clear	
Denver, Colorado	24.87	631.7	30.09	764.3	61	16.1	66	S	4	1.8	.....	0	5s	.....	Calm	0.05	1.3	Fair	
Des Moines, Iowa	29.08	738.6	29.93	760.2	68	20.0	70	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Detroit, Michigan	29.28	743.7	29.92	760.0	69	20.6	90	Calm	0	0	.....	.....	10n	.....	E	0.02	0.5	Light rain	
Dodge City, Kansas	27.43	696.7	29.66	753.4	62	16.7	83	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Dubuque, Iowa	29.27	743.4	29.95	760 7	60	15.6	77	SE	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Duluth, Minnesota	29.18	741.2	29.82	757.4	69	20.6	75	SW	8	3.6	.....	0	Haze	.....	Calm	Inap.	Inap.	Clear	
Eagle Pass, Texas	29.24	742.7	29.96	761.0	76	24.4	64	Calm	0	0	.....	5k	0	Calm	.....	0	0	Fair	
Eastport, Maine	30.11	764.8	30.18	766.6	64	17.8	73	S	5	2.2	.....	5c;hz	Haze	N;Calm	Calm	0	0	Hazy	
Edinburg, Texas	.....	.....	.....	.....	75	23.9	95	Calm	.....	.....	0	.....	Fog	.....	.....	0	0	Foggy	
El Paso, Texas	.....	.....	.....	.....	75	23.9	68	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Erie, Pennsylvania	29.29	744.0	29.98	761.5	71	21.7	71	S	14	6.3	.....	.....	10s	.....	Calm	0	0	Cloudy	
Escanaba, Michigan	29.29	744.0	29.92	760.6	65	18.3	79	SW	4	1.8	.....	Haze	Haze	.....	.....	0	0	Hazy	
Florence, Arizona	.....	.....	.....	.....	75	23.9	77	Calm	.....	.....	0	.....	10s	.....	W	0.01	0.3	Cloudy	
Fort Craig, New Mexico	25.55	649.0	29.62	752.3	66	18.9	84	NE	4	1.8	.....	5cs	0	NW	.....	0	0	Fair	
Fort Davis, Texas	25.27	641.8	30.23	767.8	62	16.7	66	NW	2	0.9	.....	2cs	0	NE	.....	0	0	Fair	
Fort Gibson, Indian Ter	29.46	748.3	29.99	761.7	63	17.2	94	Calm	0	0	.....	0	Haze	.....	Calm	0	0	Hazy	
Fort Griffin, Texas	28.74	730.0	29.93	761.7	62	16.7	83	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort McKavett, Texas	27.81	706.4	29.68	753.9	65	18.3	58	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Fort St. Michael, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Fort Sill, Indian Territory	28.80	731.5	29.89	759.2	62	16.7	77	N	4	1.8	.....	0	0	.....	.....	0	0	Clear	
Fredericksburg, Texas	28.26	717.8	29.78	756.4	67	19.4	69	Calm	0	0	.....	2k	2ks	Calm	Calm	0	0	Fair	
Galveston, Texas	29.94	760.5	29.98	761.5	80	26.7	74	NE	5	2.2	.....	0	2ks	.....	Calm	0	0	Clear	
Graham, Texas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Grand Haven, Michigan	29.30	744.2	29.93	760.2	64	17.8	83	E	2	0.9	.....	0	8s	.....	E	0	0	Fair	
Indianapolis, Indiana	29.10	739.1	29.84	757.9	71	21.7	90	E	3	1.3	.....	.....	10s	.....	E	0.33	8.4	Threatening	
Indianola, Texas	29.97	761.2	29.99	761.7	84	28.9	71	E	2	0.9	.....	1k	0	Calm	.....	0	0	Clear	
Jacksboro, Texas	28.87	733.3	29.97	761.2	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Jacksonville, Florida	30.00	763.5	30.00	764.3	84	28.9	71	Calm	0	0	.....	2ck	0	Calm	.....	0	0	Fair	
Keokuk, Iowa	29.31	744.5	29.90	759.4	69	20.6	80	Calm	0	0	.....	0	Fog	.....	Calm	0	0	Foggy	
Key West, Florida	30.00	762.0	30.03	762.7	85	29.4	72	E	5	2.2	.....	3c;k	0	Calm;E	.....	0	0	Fair	
Kittyhawk, North Carolina	30.10	764.5	30.12	765.0	78	25.6	95	E	5	2.2	.....	5ck	2ks	SW	SW	0.04	1.0	Threatening	
Knoxville, Tennessee	29.01	736.8	29.98	761.5	70	21.1	92	W	2	0.9	.....	.....	10s	.....	SW	1.76	44.7	Cloudy	
La Crosse, Wisconsin	29.20	741.7	29.91	759.7	67	19.4	69	S	4	1.8	.....	0	0	.....	.....	0	0	Clear	
La Mesilla, New Mexico	26.07	662.2	30.22	767.6	65	18.3	78	Calm	0	0	.....	5ck	0	Calm	.....	0	0	Fair	
Laredo, Texas	29.52	749.8	29.85	758.2	78	25 6	86	SE	2	0.9	.....	5ck	0	Calm	.....	0.02	0.5	Fair	
Lead City, Dakota	24.83	630.7	30.11	764.8	56	13.3	59	SW	12	5.4	.....	5k	0	SW	.....	0	0	Fair	
Leavenworth, Kansas	29.12	739.6	29.95	760.7	59	15.6	94	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Los Angeles, California	29.56	750.8	29.89	759.2	62	16.7	88	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Louisville, Kentucky	29.33	745.0	29.86	758.4	73	22.8	85	S	7	3.1	.....	.....	10s	.....	NE	0.37	9.4	Cloudy	
Lynchburg, Virginia	29.44	747.8	30.10	764.5	68	20.0	90	NE	2	0.9	.....	.....	10ks	.....	Calm	0.10	2.5	Cloudy	
Marquette, Michigan	29.18	741.2	29.84	757.9	70	21.1	53	SW	20	8.9	.....	1c	0	SW	.....	0	0	Clear	
Mason, Texas	28.37	720.6	30.08	764.0	67	19.4	74	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Memphis, Tennessee	29.67	753.6	29.98	761.5	69	20.6	84	W	1	0.4	.....	2c	Haze	Calm	Calm	Inap.	Inap.	Clear	
Milwaukee, Wisconsin	29.22	742.2	29.93	760.2	63	17.2	83	Calm	0	0	.....	1ck	Haze	.....	.....	0	0	Clear	
Mobile, Alabama	29.98	761.5	30.02	762.5	77	25.0	95	S	4	1.8	.....	.....	10s	.....	S	0.23	5.8	Cloudy	
Montgomery, Alabama	29.78	756.1	30.01	762.2	75	23.9	76	Calm	6	0	.....	.....	10s	.....	Calm	0.30	7.6	Cloudy	
Morgantown, West Virginia	28.97	735.8	29.97	761.2	71	21.7	71	E	10	4.5	.....	.....	10s	.....	SW	0	0	Cloudy	
Mt. Washington, N. H.	24.13	612.9	30.49	774.4	49	9.4	77	NW	7	3.1	.....	0	Haze	.....	Calm	0	0	Clear	
Nashville, Tennessee	29.41	747.0	29.92	760 0	74	23.3	86	SW	2	0.9	.....	.....	10s	.....	SW	0.80	20.3	Cloudy	
New Haven, Connecticut	30.10	764.5	30.21	767.3	68	20.0	95	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
New London, Connecticut	30.18	766.6	30.23	767.8	69	20.6	90	Calm	0	0	.....	.....	Fog	.....	N	0	0	Dense fog	
New Orleans, Louisiana	29.94	760.5	30.00	762.0	79	26.1	82	SW	4	1.8	.....	2ck	Haze	SW	Calm	0.03	0.8	Fair	
Newport, Rhode Island	30.18	766 6	30.22	767.6	70	21.1	90	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
New York, New York	30.04	763.0	30.21	767.3	70	21.1	84	SW	3	1.3	.....	2cs	Haze	SW	Calm	0	0	Fair	
Norfolk, Virginia	30.07	763.8	30.13	765.3	76	24.4	91	SE	5	2.2	.....	.....	10s	.....	SW	0.01	0.3	Cloudy	
North Platte, Nebraska	27.10	688.3	29.60	751.8	59	15.6	82	SE	4	1.8	.....	0	.....	.....	.....	0	0	Clear	
Olympia, Washington Ter.	30.09	764.3	30 13	765.3	45	7.2	100	E	1	0.4	.....	.....	Fog	.....	Calm	0	0	Dense fog	
Omaha, Nebraska	28.85	732.8	29.80	759.2	66	18.9	74	S	3	1.3	.....	0	0	.....	.....	0	0	Clear	
Oswego, New York	29.80	756.9	30.11	764.8	70	21.1	90	S	6	2.7	.....	2c	0	Calm	.....	0	0	Fair	
Pembina, Dakota	29.02	737.1	29.82	757.4	55	12.8	93	SE	2	0.9	.....	1c	0	W	.....	0.14	3.6	Clear	
Philadelphia, Pennsylvania	30.14	765.5	30.19	766.8	68	20.0	84	SE	7	3.1	.....	10ck;cs	Sm'e	W	Calm	0	0	Cloudy	

UNITED STATES SERIES.—Continued.

STATIONS.	Barometer. Correcte for instrum'tal error and temperature. Inches.	Barometer. Correcte for instrum'tal error and temperature. Millimeters.	Barometer. Reduced to sea-level. Inches.	Barometer. Reduced to sea-level. Millimeters.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Upper. From—	Clouds. Direction. Lower. From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Weather.	Observer.
Phœnix, Arizona	28.76	730.5	.....	.....	82	27.8	63	E	.....	.....	1	0	8ks	.....	E	0	0	Cloudy	
Pike's Peak, Colorado	18.06	458.7	30.27	768.8	35	1.7	63	N	6	2.7	.....	5k	0	N	.....	0.30	7.6	Fair	
Pioche, Nevada	24.14	613.1	29.91	759.7	64	17.8	53	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Pittsburg, Pennsylvania	29.21	741.9	29.99	761.7	71	21.7	75	SE	5	2.2	.....	.....	10n	.....	Calm	Inap.	Inap.	Light rain	
Port Huron, Michigan	29.29	744.0	29.93	760.2	69	20.6	85	Calm	0	0	.....	.....	10s	.....	Calm	0	0	Cloudy	
Portland, Maine	30.15	765.8	30.20	767.1	66	18.9	79	Calm	0	0	.....	Haze	Haze	.....	.....	0	0	Hazy	
Portland, Oregon	30.08	764.0	30.19	766 8	49	9.4	93	NW	1	0.4	.....	.....	Fog	.....	Calm	0	0	Foggy	
Prescott, Arizona	24.89	632.2	30.25	768.3	62	16.7	77	NW	4	1.8	.....	2ck	0	Calm	.....	0.05	1.3	Fair	
Pilot Point, Texas	29.23	742.4	30.04	763.0	68	20.0	79	Calm	0	0	.....	0	0	.....	.....	0	0	Smoky	
Punta Rassa, Florida	30.04	763.0	30.06	763.5	85	29.4	72	NE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Red Bluff, California	29.45	748.0	29.79	756.7	74	23.3	39	NW	8	3.6	.....	0	Haze	.....	Calm	0	0	Clear	
Rio Grande City, Texas	29.80	756.9	30.00	762.0	83	28.3	53	SE	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Rochester, New York	29.47	748.5	30.05	763.3	73	22.8	76	S	4	1.8	.....	2c	0	SW	.....	0	0	Clear	
Roseburg, Oregon	29.54	750.3	30.12	765.0	48	8.9	92	Calm	0	0	.....	0	0	.....	.....	0	0	Fair	
Sacramento, California	29.71	754.6	29.79	756.7	69	20.6	61	S	4	1.8	.....	0	Haze	.....	Calm	0	0	Clear	
St. Louis, Missouri	29.37	746.0	29.92	760.0	70	21.1	85	NW	3	1.3	.....	.....	10n	.....	Calm	0.55	14.0	Light rain	
St. Marks, Florida	30.04	763.0	30.06	763.5	77	25.0	95	Calm	0	0	.....	1k	0	Calm	.....	0.18	4.6	Clear	
St. Paul, Minnesota	29.01	736.8	29.80	756.9	62	16.7	88	SE	7	3.1	.....	0	0	.....	.....	0	0	Clear	
Salt Lake City, Utah	25.67	652.0	30.00	762.0	66	18.9	50	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
San Antonio, Texas	29.83	745.0	29.90	759.4	71	21.7	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
San Diego, California	29.86	758.4	29.93	760.2	63	17.2	94	W	2	0.9	.....	.....	10s	.....	Calm	0	0	Cloudy	
Sandusky, Ohio	29.29	744.0	29.93	760.2	72	22.2	80	SE	6	2.7	.....	.....	10s	.....	Calm	0	0	Threatening	
Sandy Hook, New Jersey	30.18	766.6	30.21	767.3	74	23.3	72	SW	4	1.8	.....	8c	0	NW	.....	0	0	Cloudy	
San Francisco, California	29.79	756.7	29.85	758.2	56	13.3	80	W	12	5.4	.....	0	5s	.....	W	0	0	Fair	
Santa Fé, New Mexico	23.39	594.1	29.93	760.2	54	12.2	74	E	2	0.9	.....	5cs	0	Calm	.....	0.16	4.1	Fair	
Savannah, Georgia	29.99	761.7	30.08	764.0	86	30.0	72	SW	4	1.8	.....	5c	Haze	W	Calm	0	0	Fair	
Shreveport, Louisiana	29.79	756.7	30.00	762.0	72	22.2	85	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Silver City, New Mexico	24.36	618.7	.....	.....	61	16.1	88	S	3	1.3	.....	0	2s	.....	Calm	0	0	Fair	
Smithville, North Carolina	30.10	764.5	30.13	765.3	82	27.8	83	S	10	4.5	.....	2cs	2ks	SW	Calm	0	0	Fair	
Springfield, Massachusetts	30.09	764.3	30.22	767.6	66	18.9	89	Calm	0	0	.....	.....	Fog	.....	Calm	0	0	Foggy	
Stockton, Texas	26.97	685.0	29.97	761.2	59	15.0	33	SW	5	2.2	.....	1c	0	Calm	.....	0	0	Clear	
Thatcher's Island, Mass	30.16	766.1	30.22	767.6	66	18.9	84	SW	4	1.8	.....	0	Sm'c	.....	.....	0	0	Smoky	
Toledo, Ohio	29.26	743.2	29.90	759.4	70	21.1	95	NE	4	1.8	.....	.....	10n	.....	NE	0.07	1.8	Light rain	
Tucson, Arizona	27.24	691.9	29.79	756.7	74	23.3	81	Calm	0	0	.....	.....	10s	.....	S	0.62	15.7	Cloudy	
Tybee Island, Georgia	30.05	763.3	30.08	764.0	86	30.0	76	SW	3	1.3	.....	2c	2ks	SW	SW	0	0	Fair	
Umatilla, Oregon	29.76	755.9	.....	.....	51	10.6	72	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Unalashka, Aleutian Islands	.....	.....	.....	.....	46	7.8	100	NW	.....	.....	1	.....	10s	.....	Calm	0.18	4.6	Cloudy	
Uvalde, Texas	29.11	739.4	29.91	759.7	71	21.7	75	E	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Vicksburg, Mississippi	29.79	756.7	30.04	763.0	67	19.4	100	SE	2	0.9	.....	.....	Fog	.....	.....	1.22	31.0	Foggy	
Virginia City, Montana	24.37	619.0	29.85	758.2	63	17.2	42	E	6	2.7	.....	0	0	.....	.....	0	0	Clear	
Visalia, California	29.46	748.3	29.82	757.4	66	18.9	79	S	2	0.9	.....	0	0	.....	.....	0	0	Clear	
Washington, D. C	30.04	763.0	30.15	765.8	70	21.1	95	E	5	2.2	.....	.....	10n	.....	S	Inap.	Inap.	Light rain	
Wickenburg, Arizona	.....	.....	.....	.....	71	21.7	95	Calm	.....	.....	0	0	0	.....	.....	0.08	2.0	Clear	
Wilmington, N. Carolina	30.02	762.5	30.10	764.5	81	27.2	86	S	5	2.2	.....	8c	0	NE	.....	1.26	32.0	Fair	
Winnemucca, Nevada	25.67	652.0	30.03	762.7	52	11.1	47	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Wood's Holl, Mass	30.19	766.8	30.24	768.1	71	21.7	80	SE	4	1.8	.....	Haze	Haze	Calm	Calm	0	0	Hazy	
Yankton, Dakota	28.65	727.7	29.91	759.7	56	13.3	87	SW	1	0.4	.....	0	0	.....	.....	0	0	Clear	
Yuma, Arizona	29.67	753.6	29.83	757.7	83	28.3	70	Calm	0	0	.....	0	0	.....	.....	0	0	Clear	
Sub-Series.																			
St. Paul's Island, Alaska	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
York Factory, B. A	29.87	758.7	29.92	760.0	48.0	8.9	92	NE	14	6.3	.....	3c	0	SE	.....	0.10	2.5	Fair	J. Fortescue, W. Wood.
Havana, Cuba, W. I	30.02	762.5	30.04	763.0	82	27.8	83	SE	1.2	0.5	.....	0	0	.....	.....	0.04	1.0	Clear	Chas. Hasselbrink.
Santiago de Cuba, W. I	30.02	762.5	30.04	763.0	77	25.0	89	NW	3.6	1.6	.....	0	Sn	.....	NE	Blank	Blank	.....	Robert Mason.
St. Thomas	.....	.....	.....	.....	83	28.3	83	E	3	1.3	.....	2c	2ks	E	.....	0	0	Clear	G. O. Gellich.
Kingston, Jamaica, W. I	30.11	764 8	30.12	765.0	81	27.2	91	Calm	0	0	.....	8c	2s	E	NE	0	0	.....	James Gall.
Navassa, W. I	29.94	760.5	30.02	762.5	83	28.3	.....	NE	9.9	4.1	.....	.....	.....	.....	.....	0.18	4.6	Partly cl'dy	F. M. Everett.
Paramaribo, D.Guiana, S.A.	30.04	763.0	30.04	763.0	78	25.6	86	NE	.....	.....	2	3c	5k	NE	.....	0.500	12.7	Fair	C. J. Hering
Medellin, Colombia, S. A	25.25	641.3	.....	.....	67.2	19.6	82	Calm	0	0	.....	.....	10ks	.....	.....	0.01	0.3	.....	Thomas Herran

Note.—The originals give the amount of cloudiness by the scale 0 to 4, except York Factory, Medellin and Paramaribo. The elevation of the barometer at Bismarck is 1,706 feet, or 520 meters; Boerne, 1,333 (?) ft., or 406.3 (?) m.; Boise City, 2,869 (?) ft., or 874.4 (?) m.; Brackettville, 1,026 (?) ft., or 312.7 m.; Camp Grant, 4,833 (?) ft., or 1,473.2 (?)m., Camp Verde, 3,500 (?) ft., or 1,066.8 (?) m.; Campo, 2,486 (?) ft., or 757.8 (?) m.; Cheyenne, 6,057.3 ft., or 1,846.2 m. Coleman City, 1,727 (?) ft., or 526.4(?) m.; Concho, 1,769 (?) ft., or 533.4 (?) m.; Denver, 5,162 ft., or 1,573.4 m.; Dodge City, 2,486 ft., or 757.8 m.; Fort Craig, 4,622 (?) ft. or 1,408.8 (?) m.; Fort Davis, 5,203 (?) ft. or 1,585.9 (?) m. Fort Griffin, 1,270 (?) ft.,or 387.0 (?) m.; Fort McKavett, 2,050 (?) ft., or 624.9 (?) m.; Fort Sill, 1,100 (?) ft., or 335.3 (?) m.; Florence, 1,550 (?) ft., or 472.5(?)m.; Fredericksburg,1,614 ft.,(?) or 492.0 (?) m.; Graham, 1,040 (?) ft., or 317.0(?) m.; Jacksboro, 1,119.2 (?) ft., or 341.1 (?) m., Lead City, (?) Mason, 1,800 (?) ft., or 548.7 (?) m.; Morgantown,1,027.9 ft., or 313.3 m.; Medellin, 4,576 ft., or 1,486.2 m.; Mt. Washington. 6,285 ft., or 1,915.6 m.; North Platte, 2,846 ft., or 867.4 m.; Omaha, 1,054.6 ft., or 321.4 m.; Phœnix, 1,800 (?) ft., or 548.7 (?) m.; Pike's Peak, 14,150.7 ft., or 4,313.1 m.; Pioche, 5,778.6 (?) ft.,or 1,761.4 (?) m.; Prescott, 5,580 (?) ft., or 1,700.9 (?) m.; Salt Lake City, 4,362.2 ft., or 1,329.6 m.; Santa Fé, 6,862.2 (?) ft., or 2,091.6 (?) m.; Silver City, 6,896 (?) ft., or 2,102.0 (?) m.; Stockton, 3,100 (?) ft., or 944.9 (?) m.; Tucson, 2,545 (?) ft., or 775.7 (?) m.; Virginia City, 5,480 (?) ft., or 1,670.3 (?) m.; Wickenburg, 2,050 (?) ft., or 624.9 (?) m.; Winnemucca, 4,322 ft., or 1,317.4, m.; Yankton, 1,278 ft., or 389.5 m. The following constants are added in correcting the barometric observations for altitude: Boise City, 2.88 inches; Camp Verde 3.488 in.; Campo, 2.57 in.; Cheyenne, 5.94 in.; Denver, 5.22 in.; Florence, 1.60 in.; Fort Craig, 4.064 in.; Fort Davis, 4.96 in.; La Mesilla, 4.15 in.; Mt. Washington, 6.86 in.; Pike's Peak, 12.21 in.; Pioche, 5.77 in.; Prescott, 5.86 in.; Salt Lake City, 4.33 in.; Santa Fé, 6.64 in.; Stockton, 3.00 in.; Tucson, 2.59 in.; Wickenburg, 2.09 in.; Winnemucca, 4.36 in.; Virginia City, 5.48 in. The instrumental error of the barometer at Medellin is not known.

UNITED STATES NAVAL SERIES.

By authority of the **SECRETARY OF THE NAVY.**

Furnished by the coöperation of the Navy Department, through Commodore William D. Whiting, U. S. N., Chief of Bureau of Navigation.

STATIONS AND VESSELS.	Barometer. As read off. Inches.	Barometer. As read off. Millimeters.	Barometer. Attached Thermometer. Fahrenheit.	Barometer. Attached Thermometer. Centigrade.	Temperature of the Air. Fahrenheit.	Temperature of the Air. Centigrade.	Relative Humidity. Per cent.	Wind. Direction. From—	Wind. Velocity. Miles per hour.	Wind. Velocity. Meters per second.	Wind. Force. 0—10.	Clouds. Amount. Up'er 0—10.	Clouds. Amount. Low'r 0—10.	Clouds. Direction. Up'er From—	Clouds. Direction. Low'r From—	Rain-fall or melted snow in the past 24 hours. Inches.	Rain-fall or melted snow in the past 24 hours. Millimeters.	Sea-swell. Character.	Sea-swell. Direction from—	Weather.	Observer.
Navy Yard, Pensacola, Fla.	30.15	765.8	80.	26.7	80	26.7	87	S	4	1.8	.....	.....	10	.....	SW	0.78	19.8	.....	.....	Raining.....	
NavyYard,Portsmouth,N.H	30.20‡	767.1‡	.....	.....	65	18.3	84	N	.....	.....	1	.....	0	.....	.....	0	0	.....	.....	Clear.....	
Naval Hospital, Yokohama, Japan	29.94*	760.5*	74.4	23.6	71.8	22.1	??	E	.....	.....	5	.....	10ks	.....	ENE	0	0	.....	.....	Cloudy	
Adams. S. 27° 25′, W. 172° 20′	29.95	760.7	65	18.3	61	16.1	94	SW	.....	.....	5–6	.....	1	.....	SW	.....	.....	Rough	SW	Stormy.....	
Alliance, Villafranca, France	29.89‡	759.2‡	.....	.....	78	25.6	78	SSW	.....	.....	1	.....	4	.....	SSW	.....	.....	.....	.....	Pleasant.....	
Ashuelot. Yokohoma, Japan	30.03	762.7	73	22.8	73	22.8	76	NE	.....	.....	5	.....	10	.....	NNE	.....	.....	Mod'ate	NE	Cloudy	
Alaska. S. 51° 15′, W. 67° 40′	29.80	756.9	53	11.7	41	5.0	91	ESE	.....	.....	6	.....	10	.....	NW	0	0	Heavy	SE	Misty.....	
Canonicus, New Orleans, La.	30.01	762.2	56	13.3	76	24.4	95	SW	.....	.....	1	.....	4	.....	.....	.....	.....	.....	.....	Fair	
Colorado. New York, N. Y.	30.14‡	765.5‡	.....	.....	76	24.4	68	SSW	4	1.8	.....	.....	8	.....	NNW	0	0	.....	.....	Foggy.....	
Constitution, Havre, France	29.82‡	757.4‡	.....	.....	64	17.8	94	SW	.....	.....	6	.....	9	.....	SW	.....	.....	.....	.....	Unsettled ...	
Despatch, Constantinople, Turkey	29.99‡	761.7‡	.....	.....	82	27.8	67	S	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear.	
Franklin, Norfolk, Va.	30.23	767.8	75	23.9	75	23.9	100	SE	5	2.2	.....	.....	10	.....	SW	0	0	.....	.....	Cloudy.....	
Gettysburg Toulon, France	29.81‡	757.2‡	.....	.....	85	29.4	100	WSW	.....	.....	3	.....	2	.....	Calm	0	0	.....	.....	Clear.....	
Hartford, Rio de Janeiro, Brazil	30.25	768.3	.....	.....	66	18.9	74	NNE	4.2	1.9	.....	.....	10	.....	.....	0	0	.....	.....	Cloudy.....	
Marion. Leghorn, Italy	30.02	762.5	79	26.1	79	26.1	86	SE	.....	.....	1	.....	0	.....	.....	0	0	Smooth	.....	Clear	
Michigan. Lake Erie	29.55	750.6	75	23.9	72	22.2	76	SE	.....	.....	3	.....	10	.....	SE	.....	.....	.....	.....	Cloudy.....	
Monocacy. Yokohama, Japan	29.95‡	760.7‡	.....	.....	73	22.8	76	NE	.....	.....	4–5	.....	10	.....	NE	.....	.....	.....	.....	Cloudy.....	
New Hampshire, Port Royal, S. C.	30.30	769.6	84	28.9	83	28.3	79	S	6.5	2.9	.....	.....	5	.....	SW	0	0	.....	.....	Fair.....	
Onward, Callao, Peru	30.14†	765.5†	.....	.....	60.5	15.8	80	SSE	.....	.....	3	.....	10	.....	.....	.....	.....	Long	W	Misty.....	
Passaic, Washington, D. C.	.....	.....	.....	.....	73	22.8	100	NE	.....	.....	2	.....	8	.....	SW	0	0	.....	.....	Cloudy	
Palos, Tientsin, China	29.97	761.2	76	24.4	72	22.2	80	SSE	.....	.....	2	.....	10	.....	.....	.....	.....	.....	.....	Raining.....	
Plymouth, New York, N. Y.	30.29	769.4	73	22.8	73	22.8	85	Calm	.....	.....	0	.....	8	.....	.....	.....	.....	.....	.....	Misty.....	
Ranger. Hong-Kong, China	30.02	762.5	87	30.6	87	30.6	87	SW	.....	.....	1	.....	0	.....	.....	.....	.....	.....	.....	Clear	
Rio Bravo. Brownsville, Texas	29.92	760.0	81	27.2	82	27.8	91	N	.....	.....	.....	.....	5	.....	N	.....	.....	.....	.....	Fair.....	
Santee, Annapolis, Md.	30.08‡	764.0‡	.....	.....	74	23.3	81	SE	.....	.....	1	.....	10	....	S	0	0	.....	.....	Cloudy.....	
St. Louis, League Island, Pa	30.11	764.8	72	22.2	69	20.6	90	E	7	3.1	.....	.....	10	.....	Calm	0	0	.....	.....	Cloudy.....	
Supply, Havre, France	29.87	758.7	65	18.3	65	18.3	84	W	.....	.....	4–5	.....	10	.....	.....	.....	.....	.....	.....	Rainy.....	
Swatara, Boston, Mass.	30.17‡	766.3‡	.....	.....	68	20.0	90	Calm	.....	.....	0	.....	5	.....	.....	.....	.....	.....	.....	Fair	
Trenton, Cherbourg, France	29.79‡	756.7‡	.....	.....	65	18.3	78	WNW	.....	.....	4–6	.....	6	.....	N; W	1.4	36.	.....	.....	Squally.....	
Tuscarora. Off La Paz, Mexico	29.73	755.1	74	23.3	75	23.9	81	S	.....	.....	2	.....	8	.....	Calm	0	0	.....	.....	Fair.....	
Vandalia. Villafranca, France	29.85‡	758.9‡	.....	.....	78	25.6	82	SSW	.....	.....	1	.....	2	.....	S	.....	.....	.....	.....	Clear	
Wabash, Boston, Mass.	30.21‡	767.3‡	.....	.....	74	23.3	76	Calm	0	0	.....	.....	10	.....	Calm	0	0	.....	.....	Foggy	

NOTE.—The originals generally give the wind-force by the scale 0 to 12; amount of cloudiness by the scale 0 to 4; weather by the Beaufort notation; the distinction between the amount of upper and lower clouds is not made, and, apparently, the direction is frequently given as toward, instead of from; they do not give the humidity. *It is not known that the barometer is corrected for temperature, instrumental error or elevation. †Aneroid Barometer. ‡Reduced to sea-level; corrections applied at this office. The mercurial barometer of the Plymouth is unreliable, the position given is that at noon, local time, instead of 7:35 A. M., Washington time.

UNITED STATES MARINE SERIES.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'er 0—10.	Low'r 0—10.	Upper. From—	Lower. From—					
S. S. Alaska																			Capt. Berry.
S. S. China																			Capt. Cobb.
S. S. City of New York																			
S. S. City of Panama, N. 39° W. 124°...		29.91*	759.7*				NW			2		5		NW		Mod'ate	NW	Hazy	Capt. Seabury.
S. S. City of Peking, Yokohama, Japan		29.87	758.7	70	21.1	100	NE	14	6.3			7		NE	0	Rough	NE	D. clouds	Capt. Cavarly.
S. S. City of Sydney																			Capt. Dearborn.
S. S. City of Tokio																			Capt. Maury.
S. S. Colima, N. 8° 37', W. 83° 54'		29.94†	760.5†	80	26.7	91	NW			2		5		SE	Blank	Mod'ate	SSW	D clouds	Capt. Searle.
S. S. Costa Rica																			Capt. Whitebury.
S. S. Dakota, N. 46° 56', W. 124° 50'		30.18†	766.6†	60	15.6	88	NNE			2		3			0	Mod'ate	W	Damp	Capt. Morse.
S. S. Georgia																			Capt. Connolly.
S. S. Grenada																			Capt. Austin.
S. S. Wilmington																			Capt. A. Fuller.
S. S. Zelandia																			Capt. Ghest.

NOTE.—The originals give the barometer as read off, except S. S. Colima; wind-force by the scale 0 to 12, and weather by the Beaufort notation; not any distinction between upper and lower clouds. The City of Peking gives velocity of wind without making correction for speed of vessel. *Corrected for temperature and elevation; instrumental error not known. †Aneroid.

PACIFIC MAIL S. S. CO. MARINE SERIES.

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WHITE STAR LINE MARINE SERIES.

Furnished by the coöperation of Ismay, Imrie & Co., Agents, Liverpool, and R. J. Cortis, Agent, New York.

S. S. Adriatic																			Capt. H. H. Perry.
S. S. Baltic																			Capt. J. W. Jenning.
S. S. Britannic																			Capt. W. H. Thompson.
S. S. Celtic, Liverpool		29.30*	744.2*	68	20.0	54	NW			6		10		W	14hours			Overcast	Capt. B. Gleadell.
S. S. Germanic, N. 50° 26', W. 20° 02'		30.25†	768.3†	60	15.6	??	W			2		2		W	0	None		D. clouds	Capt. C. W. Kennedy.
S. S. Republic																			Capt. H. Perry.

NOTE.—The originals give the barometer as read off; wind-force, except Republic, by the scale 0 to 12; for the Britannic and Republic, amount of cloudiness by the scale 0 to 4. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

OCCIDENTAL AND ORIENTAL S. S. CO. MARINE SERIES.

Furnished by the coöperation of Leland Stanford, President; Chas. F. Crocker, Vice-President; D. D. Stubbs, Secretary.

S. S. Belgic, Hong-Kong, China		29.68*	753.9*	83	28.3	79	N			2		k		SW		Smooth		D. clouds	Capt. L. Myer.
S. S. Gaelic, N. 37° 08', E. 166° 58'		30.10†	764.5†	74	23.3	??	SW			4		c		SW	0	Smooth		D. clouds	Capt. W. H. Kidley.
S. S. Oceanic, N. 39° 16', W. 126° 28'		29.90	759.4	55	12.8	100	NNW			2		10				2	NW	Misty	Capt. John Metcalf.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; do not distinguish between upper and lower clouds. The position given for the Oceanic is that at noon, local time, instead of that at 7:35 a. m., Washington time, and the sea-swell by the scale 0 to 9. * Corrected for temperature and elevation; instrumental error not known. †Aneroid.

NORTH GERMAN LLOYD OF BREMEN MARINE SERIES.

Furnished by the coöperation of A. Schumacher & Co., Agents.

S. S. Baltimore																			Capt. H. Andressen.
S. S. Berlin, N. 40° 57', W. 64° 48'		30.26	768.6	67	19.4	67	N			2		1		N	0	Light	SE	Fine	Capt. T. H. Lamke.
S. S. Braunschweig																			Capt. Undutz.
S. S. Leipzig																			Capt. F. Pfeiffer.
S. S. Nürnberg																			Capt. A. Jaeger.
S. S. Ohio																			Capt. G. Meyer.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather as published; do not generally give amount of cloudiness, except S. S. Braunschweig by the scale 0 to 4, nor distinguish between upper and lower clouds. The S. S. Braunschweig gives sea-swell by the scale 0 to 9.

UNITED STATES MARINE SERIES.—CONTINUED.

REPORTED TO THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY.

NAMES OF VESSELS.	True course toward—	Barometer reduced to sea-level.		Temperature of the Air.		Relative Humidity.	Wind.				Clouds.				Rain-fall or melted snow in the past 24 hours.	Sea-swell.		Weather.	Observer.
							Direction.	Velocity.		Force.	Amount.		Direction.			Character.	Direction from—		
		Inches.	Millimeters.	Fahrenheit.	Centigrade.	Per cent.	From—	Miles per hour.	Meters per second.	0—10.	Up'per 0—10.	Lo'wr 0—10.	Upper. From—	Lower. From—					
AMERICAN S. S. CO. MARINE SERIES.																			
Furnished by the coöperation of H. D. Welsh, President; Peter Wright & Sons, General Agents.																			
S. S. Illinois																			Captain Shackelford.
S. S. Indiana, N. 40° 12', W. 71°		30.25*	768.3*	70	21.1	95	SSW			1		8		N	Light	Smooth		Hazy	Captain Sargent.
S. S. Ohio, N. 50° 46' W. 18° 27' 30"		30.22	767.6	66	18.9	84	NNE			2		7		W	0	Small	N		Captain Morrison.
S. S. Pennsylvania, N. 50° 10', W. 20° 42'		30.15†	765.8†	59	15.0	94	S			3		10		SSE	0	Light	S	Cloudy	Captain Harris.

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12. The S. S. Illinois and Pennsylvania give the cloud directions as toward instead of from. *Aneroid; unreliable, corrected for temperature and elevation; instrumental error not known. †Corrected for temperature and elevation; instrumental error not known.

RED STAR LINE MARINE SERIES.

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S. S. Nederland																			Capt. Randle.
S. S. Switzerland																			Capt. Jackson.
S. S. Vaderland																			Capt. Nichols.

ALLAN LINE MARINE SERIES.

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S. S. Austrian																			Capt. W. Richardson.
S. S. Hibernian																			
S. S. Scandinavian																			

NOTE.—The originals give the barometer as read off; wind-force by the scale 0 to 12; weather by the Beaufort notation.

MARINE SERIES. (Miscellaneous.)

Furnished by the coöperation of the Observer named.

Schooner Addie Fuller																			Capt. James Jorgensen
Schooner Florence, Cumberland Bay		29.93*	760.2*	37.2	2.9		S			1	1c	5ks	W	W				Cloudy	O. T. Sherman.

NOTE.—The originals for the Schooner Addie Fuller give the barometer as read off; amount of cloudiness by the scale 0 to 4. *Aneroid.

COLLATED AT THE OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY, WASHINGTON, D. C.

The records which appear in this Bulletin are copied from **the regular exchanges of this office,** made in each instance **in compliance with an especial request,** and are published for the uses of the coöperating observers.

The barometric readings in the first two columns are reduced to freezing and their respective standards; those in the second two also to mean sea-level. For United States Marine Series the correction for instrumental error and the reduction to sea-level have been applied whenever they could be ascertained by means of reliable comparisons, made when the vessel was at or near land stations. The "weather" is generally published as given; D. clouds for detached clouds. When the distinction between the upper and lower strata of clouds is not reported, the *kinds* or *types*, viz: cirrus, cumulus, stratus, nimbus, scud, fracto, pallio, haze, fog and smoke, as indicated, respectively, by the letters c, k, s, n, d, f, p, hz., fg. and sm'e, are generally published with the amount in the lower-cloud column. The distinction between the upper and lower strata is carefully made in the United States Series and a portion of the Candian Series, and the types are indicated by the above letters and their combinations in the proper column.

Albert J. Myer

Brig. Gen. (Bvt. Assg^d.) Chief Signal Officer, U. S. A.